

Wargame Construction Set™ III:

AGE OF RIFLES™

1846-1905



A MINDSCAPE COMPANY

User Manual

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■ INTRODUCTION

Shortly after the end of the Napoleonic wars, the battlefield entered a period of technological driven evolution toward today's pattern of modern warfare. Prior to this, most troops were armed with hand-to-hand weapons and smoothbore muskets. These muskets were direct descendants of the earliest gunpowder weapons. In some ways, these weapons merely continued the centuries long trend toward increasing the reach of troops in hand-to-hand combat. The accuracy of the musket was so poor that the practical effect was to extend the range at which large bodies of troops could fight. Rates of fire were low and effective ranges had not changed for over a century. The battlefield was still ruled by shock action — bayonets, sabers, and lances remained the arms of decision.

Armies started issuing rifles as standard arms during the 1840's. This had a dramatic effect on the battlefield. While early rifles still suffered from low rates of fire, they extended the range at which infantry could engage the enemy so greatly that for the first time the value of shock action began to be questioned. Even standard field artillery of the day could be brought under rifled small arms fire, as its effective range was similar to that of the individual soldier's rifle. In fact, a major driving factor in the development of extended range, rifled artillery was the need to be able to operate guns beyond the range of small arms. Well trained or highly motivated troops could still be formed into attack columns and ordered to charge enemy positions, but lesser forces were much less likely to be able to press a charge home. By the 1850's, only elite European cavalry could still be relied upon for decisive shock action.

The Golden Age of the rifle began in the late 1860's with the general introduction of rapid-fire, breach-loading, and magazine-fed weapons. European cavalry could still successfully charge into hand-to-hand combat, but only at a very high cost. Smoothbore artillery became useless except in fortified positions. The dramatic success of the Prussian "needle gun" in campaigns against Denmark and Austria spurred all major powers to develop similar weapons. By the time of the Franco-Prussian War (1870), the European battlefield was a very lethal place indeed. Outside of continental Europe, the deployment of rapid fire rifles proceeded at a slower pace. Many American soldiers were still armed with single shot black powder rifles as late as the Spanish American War (1898).

In the hands of the private soldier the rifle dominated the battlefield for about 20 years. Weapons technology, however, continued to evolve, and with the deployment of machine guns and rapid fire artillery in the 1880's, crew served weapons began to eclipse the rifle. Throughout the nineteenth century, and into the early years of the twentieth, troops went into combat in formations that would have been familiar to their fathers and grandfathers. Tactical doctrine changed much more slowly than the technology of military hardware, resulting in the blood baths of the Russo Japanese War and World War I. The lessons learned from these terrible conflicts eventually led to development of truly modern tactics, giving rise to today's battlefield. But that is the subject of another game. . . .

■ WHAT COMES WITH THE GAME

The game box should contain the following:
This User's Manual explaining the game.

■ THE GAME

AGE OF RIFLES is a tactical simulation game. It has many rules options which can be used to make the game more complex simulation elements. It simulates many of the tactical decisions battlefield commanders in the 19th century.

There are three possible game scales:

SCALE	HEX SIZE
Small	100 yards
Medium	200 yards
Large	400 yards

■ BASIC CONCEPTS

Scenarios

A scenario is a particular tactical situation involving forces. Generally, a scenario is defined depending on the sizes of the forces involved.

Campaigns

A campaign is a sequence of tactical situations or a series of battles included in AGE OF RIFLES.

What is a Unit?

Each icon represents a unit. Units can be companies, battalions, regiments, brigades, "game pieces." These units represent troops and equipment. There is considerable variation in the number of troops a unit can have more than 100.

An important quality of a unit is its mobility upon the weapons and tactics of the troops operating it. Units can't be broken.

WHAT COMES WITH THIS GAME

The game box should contain this User's Manual, a CD-ROM disk, and a data card. The Users Manual explains game controls for AGE OF RIFLES.

THE GAME

AGE OF RIFLES is a tactical simulation of nineteenth-century warfare. It has numerous rules options which simulate a variety of battlefield factors. If played using the basic rules options, the game is very quick and easy to play, and is not burdened by complex simulation elements. If played with advanced rules options, AGE OF RIFLES simulates many of the same problems and limitations that were faced by real battlefield commanders in the nineteenth century.

There are three possible game scales:

Scale	HEX SIZE	TURN LENGTH	TYPICAL UNIT	TYPICAL COMMAND
Small	100 yards	10 minutes	Company or Battery	Regiment
Medium	200 yards	20 minutes	Battalion	Brigade
Large	400 yards	40 minutes	Regiment	Division or Corps

BASIC CONCEPTS

Scenarios

A scenario is a particular game situation comprising a map, objectives, and opposing forces. Generally, a given scenario lasts from eight to twenty turns of game play depending on the sizes and objectives of the opposing forces.

Campaigns

A campaign is a sequence of scenarios linked by a theme such as the Russo-Japanese conflict or a series of battles from the American Civil War. All of the campaigns that are included in AGE OF RIFLES contain six to thirteen scenarios.

What is a Unit?

Each icon represents one unit. As the game proceeds, orders are given to companies, regiments, brigades, and batteries. To use a board game analogy, these are the "game pieces." These game pieces are "units"; subordinate organizations of troops and equipment. These units are maneuvered in order to engage the enemy. There is considerable variation in unit size, but at the beginning of a scenario most units have more than 100 and fewer than 3000 troops.

An important quality of any unit is its capability. The capability of a unit is dependent upon the weapons assigned to the unit, the training, vitality, experience, and morale of the troops operating those weapons, and the capability of officers in command. Units can't be broken down or combined by players during a game.

What is a Command?

Military structure consists of many units attached to some larger body allowing for coordination in battle. In AGE OF RIFLES, this larger body is referred to as a command. All units are assigned to higher level commands. Commands range from regiments to divisions, depending upon the scale of the scenario. A command might have from five to twenty-five units assigned.

In addition to the units assigned, all commands have several characteristics in common (depending on the Rules Options selected): leaders, morale, and so on. All of these factors have significant effects on a unit's ability to remain effective during the game.

What is a Formation?

AGE OF RIFLES uses the term "formation" to refer to the way any particular unit is "lined up." Nineteenth century military units deployed in fairly rigid formations depending upon their level of training and assigned missions. Today's parade ground drill is an echo of the battlefield realities of the past. A unit's formation determines how efficiently it moves and/or fights. Some formations are excellent for getting into place to place, but terrible for combat and vice versa. No formation is without drawbacks and benefits. If played without the automatic formation rules, the choice of formation is limited only by the training level of the unit. For more details see the "Change Formation" section starting on page 15.

■ MAIN SCREEN



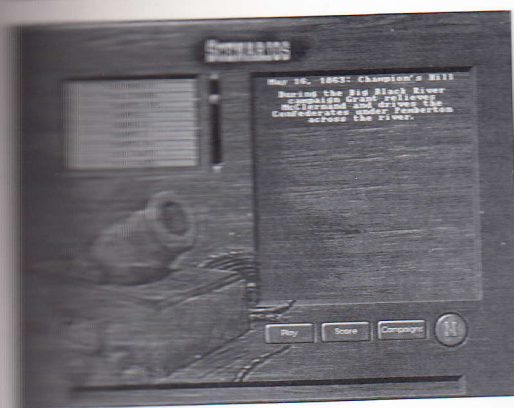
battles from one of eight campaigns. The text window on the right displays the campaign briefing. At the bottom of the screen are four buttons: Play which begins play, Score which shows the highest score achieved playing that campaign, Scenarios which displays the Scenario selection screen, and the M or Main screen button.

The Main screen, or AGE OF RIFLES screen, has six options on it. The fastest way to start playing is to left-click on the Scenario button and choose one of the scenarios which appear there.

Campaign Screen

A campaign is a series of connected scenarios which represent a series of historical

Scenario Screen



which displays the Campaign selection screen, and the

Load Screen

The Load button allows a previously saved game to be loaded. PREEM games are also loaded from this menu. Saved PREEM games are stored in separate directories which require the appropriate button from the bottom of the screen.

Editor

AGE OF RIFLES comes with a powerful, easy-to-use editor to construct or modify, using any of the weapons and units. It also allows creating personally designed armies from nations that can also be created from new or existing scenarios. See the section, starting on page 41, for more details.

Gazetteer

We have included a compendium of information about the forces that were prevalent in the nineteenth century. It presents four options:

- The History of Rifles details the development of the rifle.
- The Weapons Database displays the capsule histories of the weapons featured in AGE OF RIFLES.
- Battle History discusses specific battles as found in AGE OF RIFLES.
- Campaign History offers an overview of the events of the game battles as found in AGE OF RIFLES.

Command?

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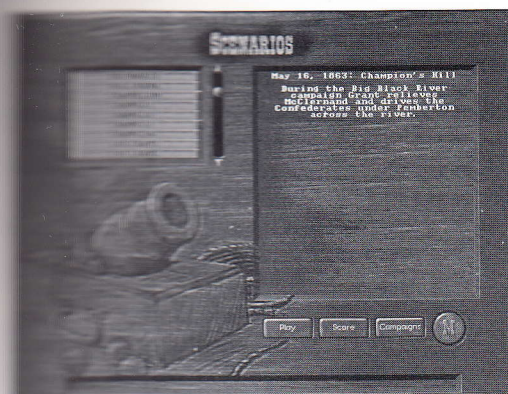
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Scenario Screen



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Load Screen

The Load button allows a previously saved game to be loaded. Play-by-Email (PBEM) games are also loaded from this menu. Saved scenarios, campaigns, and PBEM games are stored in separate directories which can be opened using the appropriate button from the bottom of the screen.

Editor

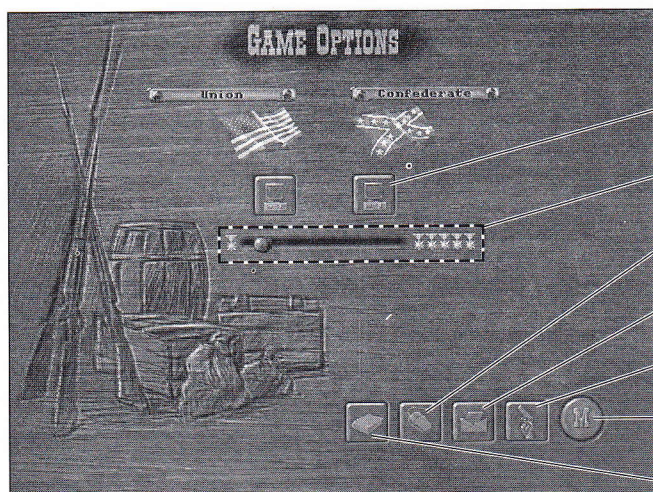
AGE OF RIFLES comes with a powerful, easy-to-use editor which allows scenarios to be constructed or modified, using any of the weapons and nations of the period, or creating personally designed armies from nations that never were. New campaigns can also be created from new or existing scenarios. See the "Scenario Editor" section, starting on page 41, for more details.

Gazetteer

We have included a compendium of information about the technological and social forces that were prevalent in the nineteenth century. Pressing the Gazetteer button presents four options:

- The History of Rifles details the development of the rifle.
- The Weapons Database displays the capsule histories of many of the weapons featured in AGE OF RIFLES.
- Battle History discusses specific battles as found in AGE OF RIFLES.
- Campaign History offers an overview of the events before and between Campaign game battles as found in AGE OF RIFLES.

■ GAME OPTIONS



Once a scenario or campaign has been selected, the Game Options screen appears. Both sides of the battle are shown with the side going first appearing on the left and the side going second appearing on the right. Several choices can be made regarding the game using the option controls appearing on this screen.

Human or Computer Player

These buttons toggle between human and computer control. Both sides, either side, or neither side can be selected to be computer or human controlled; AGE OF RIFLES is capable of playing both positions.

Difficulty Slide Bar

AGE OF RIFLES can be played at one of five difficulty settings which determine the level of enhancement the artificial intelligence is allowed. At the highest setting, any player should find the computer to be an extremely difficult opponent.

Rules Options Button

Clicking on this button opens the Rules Options window where several options which can make the game simpler or more complex can be selected. See the "Rules Options" section on page 6 for more information.

General Play Options Button

This button opens the General Play Options window where many "look-and-feel" options such as Mouse Control, Sound, Music, Movement Path Display, Move Limit Display, and Map Scrolling can be altered. See the "General Play Options" section on page 24 for more information.

Play-by-Email Button

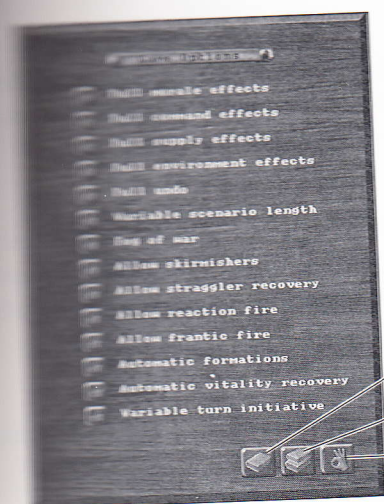
This button configures a game as a Play-by-Email (PBE) game. See the "Play-by-Email" section on page 8 for more information.

Start

The Start button begins the game using the current options.

Return to Main Screen

Click here to return to the Main screen.



Rules Options

The Rules Options window allows varying degrees of realism in a campaign of AGE OF RIFLES. Options can be selected in the Basic or Advanced sets. There are also two preset sets for the sake of convenience.

Basic Set

The aim of the Basic option set is to emphasize flexibility. It turns on options: Full Undo, Allow Frantic Fire, Automatic Formations, and Straggler Recovery. All other options are turned off.

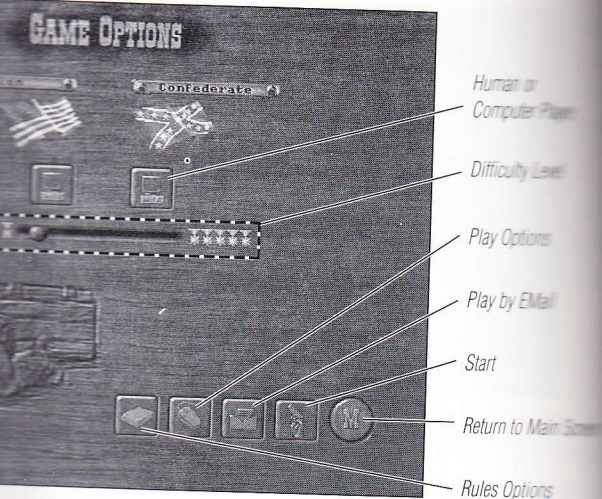
Advanced Set

The Advanced option set emphasizes realism by activating all options. It turns on: Full Morale Effect, Full Command Effect, Full Supply Effect, Full Environment Effect, Full Undo, Variable Scenario Length, Variable Turn Initiative, Fog of War, Allow Skirmishers, Allow Straggler Recovery, Allow Reaction Fire, Allow Frantic Fire, Automatic Formations, Automatic Vitality Recovery, and Variable Turn Initiative.

When all the options or option sets desired have been selected, click the OK button to proceed.

Full Morale Effect

Full Morale Effect means that all morale rules and checks are active. If the morale check option is off, the circumstances under which morale checks are made are altered.



campaign has been selected, the Game Options screen appears. The options are shown with the side going first appearing on the left and the other side appearing on the right. Several choices can be made regarding the game controls appearing on this screen.

Computer Player

Between human and computer control. Both sides, either human or computer, can be selected to be computer or human controlled; AGE OF RIFLES allows playing both positions.

ar

played at one of five difficulty settings which determine the level of artificial intelligence is allowed. At the highest setting, any computer to be an extremely difficult opponent.

tion

opens the Rules Options window where several options of varying simplicity or more complex can be selected. See the "Rules Options" section on page 6 for more information.

Options Button

The General Play Options window where many "look-and-feel" options such as Control, Sound, Music, Movement Path Display, Move Limit, and Turn can be altered. See the "General Play Options" section on page 6 for more information.

Play-by-Email Button

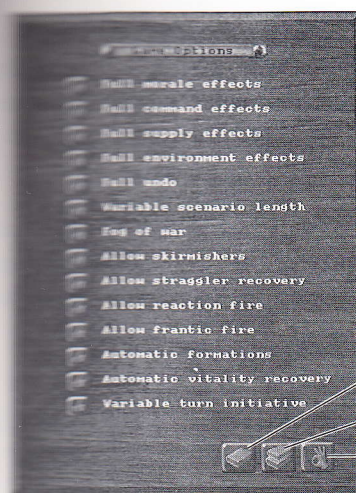
This button configures a game as a Play-by-Email (PBEM) game. See the "Playing by Email" section on page 8 for more information.

Start

The Start button begins the game using the current option settings.

Return to Main Screen

Click here to return to the Main screen.



Rules Options

The Rules Options are designed to allow for varying degrees of realism in a scenario or campaign of AGE OF RIFLES. These options can be selected individually; however, there are also two predetermined sets of options for the sake of convenience.

Basic Set

The aim of the Basic option set is to emphasize flexibility by activating the following options: Full Undo, Allow Frantic Fire, Automatic Formations, and Automatic Vitality Recovery. All other options are turned off.

Advanced Set

The Advanced option set emphasizes realism by activating the following options: Full Morale Effect, Full Command Effect, Full Supply Effect, Full Environmental Effects, Variable Scenario Length, Variable Turn Initiative, Fog of War, Allow Skirmishers, and Allow Reaction Fire.

When all the options or option sets desired have been selected, click on the Ok button to proceed.

Full Morale Effect

Full Morale Effect means that all morale rules and checks take place as normal. With this option off, the circumstances under which morale checks are taken are reduced.

Full Command Effect

With the Full Command Effect option turned on, commands are under the command of a leader, who may or may not have subleaders to aid him. Units that move beyond a leader's radius of influence may become isolated and unable to move normally, being restricted to one hex of movement. For more details about the effects of leaders see the "Chain of Command" section on page 36.

Full Supply Effect

With this option on, the rules described in the "Resupply" section on page 37 are in effect. With this option turned off, units never need worry about ammunition supply.

Full Environment Effects

When active, this option imposes movement and visibility penalties if the weather is inclement. The weather is always perfect and the ground is always firm when the option is off.

Full Undo

Any action just completed can be taken back with the Full Undo option turned on. When off, only three types of actions can be taken back: movement which does not reveal an unseen unit or result in fire or melee combat, formation changes, and phasing changes.

Variable Scenario Length

If Variable Scenario Length is active, scenarios may end sooner or later than specified since battles did not always start or stop on schedule.

Fog of War

The Fog of War option limits the ability to see enemy units to those within a unit's field of view. When Fog of War is off, all enemy units are visible.

Allow Skirmishers

This option allows the employment of a type of scouting or screening force known as skirmishers. These troops deploy some distance in front of their parent unit to harass enemy units by fire and screen the main body of their unit from enemy small arms fire. Having skirmishers deployed slows movement in any formation by one point per hex.

Allow Straggler Recovery

When units take casualties or suffer morale results, such as retreat or rout, there are always some soldiers that "straggle." That is, they become lost, confused, desert, or panic. With this option on, some stragglers will return to a unit over time. With this option off, stragglers are permanent losses. For more information see the "Casualties" section on page 33.

Allow Reaction Fire

This option enables the selection of specific orders regarding fire or movement. Reaction Orders must be active for the option discussed in the following section. See the "Reaction Orders" section on page 30 for details of Reaction Orders.

Allow Frantic Fire

When this option turned on, units may fire on nearby units. See the "Frantic Fire" section on page 30 for details.

Automatic Formations

Seventeenth-century armies used specific formations to fight in battle. This option enables AGE OF RIFLES to determine what it deems is the most appropriate formation for a unit. When turned off, all formations, except those determined by the player, are chosen by the player.

Automatic Vitality Recovery

With this option turned on, the effects of vitality loss are reduced. With this option turned off, units and commanders can become wounded from movement as described on page 28. Units can also become wounded as a result of combat.

Variable Turn Initiative

Rather than the typical "Side A then Side B" phased turn, the initiative is determined from turn to turn if this option is active. The initiative is based on the capability of units and the strategic situation to determine which side, if one has not been preselected. Thus, either side can win a turn, but both sides get a phase in every turn.

Playing an Email Game

When the Play by Email button is clicked on the Game menu, a window appears when the Start game button is left-clicked. The user is prompted to enter a password or click on the Cancel button. If a password is entered, a confirmation window opens requesting verification. If a valid password has been entered and verified, AGE OF RIFLES will start the turn of the selected scenario.

When the End Turn button is clicked at the end of a turn, a window appears displaying the phasing player's name. The default name of the save file consists of the first

Effect option turned on, commands are under the command. Units that may not have subleaders to aid him. Units that move may become isolated and unable to move. For more details about the effects of the "Command" section on page 36.

rules described in the "Resupply" section on page 37. If turned off, units never need worry about ammunition supply.

Effects on imposes movement and visibility penalties if the weather is always perfect and the ground is always firm when the weather is not perfect.

Actions can be taken back with the Full Undo option turned on. Types of actions can be taken back: movement which does not result in fire or melee combat, formation changes, and line of sight.

Length If the game is active, scenarios may end sooner or later than specified. Scenarios always start or stop on schedule.

Line of Sight Limits the ability to see enemy units to those within a unit's line of sight. If Line of War is off, all enemy units are visible.

Deployment of a type of scouting or screening force known as a screen. Screen units deploy some distance in front of their parent unit to screen the main body of their unit from enemy small arms fire. Screeners deployed slows movement in any formation by one movement point.

Stragglers Units that suffer morale results, such as retreat or rout, there are some stragglers. That is, they become lost, confused, desert, or are killed. Some stragglers will return to a unit over time. With the "Stragglers" option turned on, some stragglers will return to a unit over time. With the "Stragglers" option turned off, stragglers are permanent losses. For more information see the "Morale" section on page 33.

Reaction Fire

This option enables the selection of specific orders regarding a unit's reaction to enemy fire or movement. Reaction Orders must be active in order to use the Reaction Orders option discussed in the following section. See the "Reaction Orders" section on page 30 and the "Reaction Fire" section on page 30 for complete descriptions of the effects of Reaction Orders.

Frantic Fire

With this option turned on, units may fire on nearby enemy units if they are able to do so. See the "Frantic Fire" section on page 30 for more information.

Automatic Formations

Nineteenth-century armies used specific formations to achieve specific ends in fire and melee combat. This option enables AGE OF RIFLES to place a unit or command in a formation it deems is the most appropriate formation for the situation. If this option is turned off, all formations, except those determined by morale or combat results, are chosen by the player.

Automatic Vitality Recovery

With this option turned on, the effects of vitality loss cease at the end of every turn. With this option turned off, units and commands are subject to vitality loss and becoming winded from movement as described in the "Movement" section on page 28. Units can also become winded as a result of combat.

Variable Turn Initiative

Rather than the typical "Side A then Side B" phased movement, turn initiative is determined from turn to turn if this option is active. AGE OF RIFLES compares the capability of units and the strategic situation to determine which side is the initial phasing side, if one has not been preselected. Thus, either side could move twice in a row, but both sides get a phase in every turn.

Playing an Email Game

When the Play by Email button is clicked on the Game Options screen, the Password window appears when the Start game button is left-clicked. The first player, Player 1, is prompted to enter a password or click on the Cancel button. When a password is entered, a confirmation window opens requesting verification of the password. Once a valid password has been entered and verified, AGE OF RIFLES proceeds to the first turn of the selected scenario.

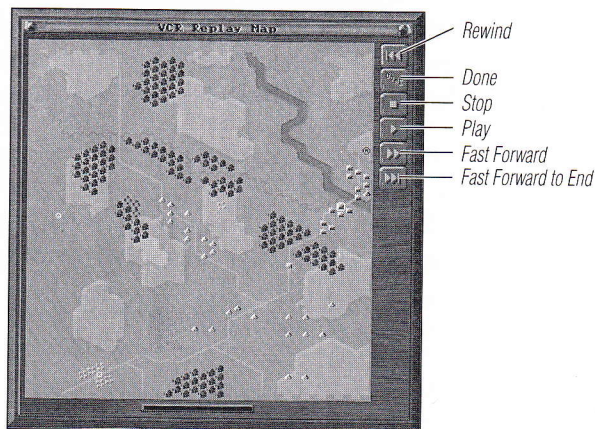
When the End Turn button is clicked at the end of the first turn, the Turn Complete screen appears displaying the phasing player's national flag and the turn number. The default name of the save file consists of the first four letters of the nation name.

followed by the turn number. For example, the first turn from an American War scenario would be either Unio-001 or Conf-001. PBEM games are saved with a three letter suffix ".pbm" in a directory called "PBEM."

Clicking the Ok button saves the game as a PBEM game and exits to the Main screen.

Loading a PBEM Game

A PBEM game is continued by the second player copying the PBEM save into the "PBEM" directory. Player 2 should then start AGE OF RIFLES normally. When presented with the choice of what type of game to play, left-click on the Load button, then select the PBEM button. All games with the ".pbm" suffix appear in the list. Select the appropriate save game and click the Play button.



If this is the first turn for player 2, the Password screen appears and the second player, Player 2, is prompted to enter a password or click on the Cancel button. When a password is entered, a confirmation window opens requesting verification of the password. Once a valid password has been entered and verified, AGE OF RIFLES proceeds to the next turn of the selected scenario.

The PBEM game "VCR" playback screen appears which defaults to display the other player's previous turn. The map is based on the Overview map, and indicates units as arrows pointing in the direction the unit is facing. The controls for the VCR window include: Rewind, Done, Stop, Play, Fast Forward, and Fast Forward to End. The entire game is stored as a VCR recording, and can be viewed from beginning to end on a turn by turn basis after this initial display.

When Player 2 left-clicks the End Turn button, the Turn Complete screen appears displaying the turn number and file name. Clicking on the Ok button returns to the Main screen.

PLAY SCREEN



On-screen buttons which control various game functions. Over a hex, the Information bar, just below the Map panel, shows terrain and current options for the mouse at that location. At the bottom of the screen are the Active Unit controls, the Command panel, and the Overview Map respectively.

Map window

The Map window is the main area of activity for an AGE OF RIFLES game. In the Map window, terrain features such as built-up areas, forests, rivers, and streams are represented using contour lines where elevation changes occur. Victory objectives are displayed as a flag of the unit that controls that hex. Supply lines change based on the last unit to control that hex. Supply lines also change status based on occupation unless the "Resupply" section on page 37 for more information.

Using the Mouse

The mouse pointer is the primary means of controlling the game. To click on a button or hex, move the pointer to that location and click. In some cases, the right or left mouse buttons may be chosen using the General Play Options menu.

Mouse controls default as "Standard" (one button) or "Alternate" mouse controls (two buttons). See the "General" section on page 24 for instructions on choosing the preferred mouse usage. In this manual assume a two button mouse control mode.

turn number. For example, the first turn from an American scenario would be either Unio-001 or Conf-001. PBEM games are saved with the suffix ".pbm" in a directory called "PBEM."

Clicking on the Save button saves the game as a PBEM game and exits to the Main screen.

Game

continued by the second player copying the PBEM save immediately. Player 2 should then start AGE OF RIFLES normally. When asked for a choice of what type of game to play, left-click on the Load button. All games with the ".pbm" suffix appear in the list. Click on the appropriate save game and click the Play button.



Rewind
Done
Stop
Play
Fast Forward
Fast Forward to End

For player 2, the Password screen appears and the second player is prompted to enter a password or click on the Cancel button. When a valid password has been entered and verified, AGE OF RIFLES proceeds to the selected scenario.

The VCR playback screen appears which defaults to display the first turn. The map is based on the Overview map, and indicates the direction the unit is facing. The controls for the VCR playback are Rewind, Done, Stop, Play, Fast Forward, and Fast Forward to End. The game is stored as a VCR recording, and can be viewed from beginning to end by turn basis after this initial display.

Clicking the End Turn button, the Turn Complete screen appears displaying the turn number and file name. Clicking on the Ok button returns to the

MAIN PLAY SCREEN



Once a scenario has been selected, the Main Play screen appears. This screen is where 90% of the game happens. The main feature of this screen is the Map window, where units are displayed and maneuvered. Across the top are three menu options, File, Play, and Info; next to them is the Time/Turn indicator. Along the right screen edge are various buttons which control various game functions. When the pointer is over a hex, the Information bar, just below the Map panel, contains information about terrain and current options for the mouse at that location. Along the bottom of the screen are the Active Unit controls, the Command controls and the Overview Map respectively.

Map window

The Map window is the main area of activity for an AGE OF RIFLES scenario. Within the Map window, terrain features such as built-up areas, supply points, fortifications, roads, trenches, forests, rivers, and streams are represented. Elevation is represented using contour lines where elevation changes to form slopes or escarpments. Victory objectives are displayed as a flag of the appropriate nation which changes based on the last unit to control that hex. Supply points appear as encampments and also change status based on occupation unless on the map edge. See the "Resupply" section on page 37 for more information.

Using the Mouse

The mouse pointer is the primary means of controlling the action in AGE OF RIFLES. To click on a button or hex, move the pointer to that area of the screen and left-click. In some cases, the right or left mouse buttons have different effects which can be chosen using the General Play Options menu.

Mouse controls default as "Standard" (one button), but can be changed to "Alternate" mouse controls (two buttons). See the "General Play Options" section on page 24 for instructions on choosing the preferred mode. **Note:** Most references to mouse usage in this manual assume a two button mouse used in Standard control mode.

With Standard controls most actions are performed with the left mouse button; other mouse buttons are ignored. Just left-click on a hex to select a new active unit. Issue movement orders using the "drag-and-drop" method described below. Movement orders can be given when the pointer becomes a set of cross-hairs. The right mouse button can be configured using the General Play Options menu.

If Alternate controls are chosen, all mouse buttons are active. Use the left mouse button to order movement and initiate melee with an adjacent unit. The right mouse button is used to select a new active unit or issue fire orders. The center mouse button can be configured using the General Play Options menu. This method of play is much faster than standard controls, but some players may find the requirement to keep track of three mouse buttons to be too cumbersome.

The Mouse Pointer

The mouse pointer is also a very important source of information. Notice that the pointer changes shape as it moves around the screen. Off map, the pointer changes into a pointing finger or a bronze arrow icon. The pointing finger is used to activate the various buttons and panels. The bronze arrow scrolls the map when the pointer is moved to the edge of the screen, the arrow points the same direction the map scrolls. When the pointer is over a hex, the Information bar, just below the Map panel, contains information about terrain and current options for the mouse at that location. If a unit is there, the Unit and Formation panels display important information about that unit.

Within the map window, the pointer takes one of the following forms:

Crosshair Pointer

This indicates that the active unit can fire into the hex under the pointer. As with movement, the color of the pointer is significant. Green crosshairs indicate the weakest fire; yellow-green, yellow, orange, and red crosshairs indicate increasing levels of lethality of fire.

Movement Pointer

Standard movement is controlled using the left mouse button and a technique called "drag-and-drop." Basic drag-and-drop movement works by clicking on a unit to select it, then with the pointer over the unit, press and hold down the left mouse button. The pointer icon changes to a circle with the unit's movement point visible in it. Move the pointer until the destination hex is reached and release the left mouse button to have the unit move to the target hex. While dragging the Movement pointer with a unit selected, the pointer changes color indicating the exertion level required for movement. A red pointer means the hex is out of reach; green means the hex can be reached without risking the unit becoming "winded." The number in the pointer also changes to reflect a "projected" decrease in movement allowance for movement into that hex.

Some units can be activated to simulate the effects of the Automatic Vitality Recovery rules. A yellow pointer means the hex is in range, but requires the unit to become "winded."

When the mouse pointer is moved over a unit, information is displayed in the Active Unit panel at the bottom of the screen. All visible units, simply moving the mouse pointer around the map, do not display their orders or supply status, but do show their formation, armament, formation, and vitality.

Arrow Pointer

This pointer is displayed if the unit can't fire into the hex under the pointer. The color of the pointer indicates whether or not a unit can reach a hex with a red pointer. Green and yellow pointers can move to, although movement to a hex under a yellow pointer around the tip of the pointer indicates that a unit in the area is a new active unit.

Buttons, Panels, and Menus

Unit Information

There are two or three large information displays available from the Active Unit command depending upon the number of weapons assigned to the unit.

The name of the active unit appears on the brass plate just below the Information bar. Below that, in the lower left-hand corner, is a unit picture showing troops in uniform. This is the Unit picture. A maximum of eight figures can appear. Each figure represents a soldier. Depending on the scale; 100 soldiers in a 100 yard/10 minute turn scale scenario, a unit with seven figures displayed would have 700 men in the 200 yard scale, and 2800 men in the 400 yard scale. The maximum effective size of a unit is also limited by the scale of the map. A certain number of soldiers using the formations employed in the area represented by a hex.

This picture is actually a large button. Left-clicking on it displays detailed information on the unit including movement, ammunition supply, weapon effectiveness, m



controls most actions are performed with the left mouse button. Right-clicks are ignored. Just left-click on a hex to select a new active unit. Orders using the "drag-and-drop" method described below are issued when the pointer becomes a set of cross-hairs. The right mouse button is figured using the General Play Options menu.

When units are chosen, all mouse buttons are active. Use the left mouse button to select a unit and initiate melee with an adjacent unit. The right mouse button to select a new active unit or issue fire orders. The center mouse button is used using the General Play Options menu. This method of controls is standard, but some players may find the requirements for using mouse buttons to be too cumbersome.

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The mouse pointer is also a very important source of information. Notice that the pointer changes shape as it moves around the screen. Off map, the pointer changes to a red arrow or a bronze arrow icon. The pointing finger is used to activate units and panels. The bronze arrow scrolls the map when the pointer is over the edge of the screen, the arrow points the same direction the mouse is moving. When the pointer is over a hex, the Information bar, just below the map, displays information about terrain and current options for the mouse action. When there, the Unit and Formation panels display important information about the unit.

When the mouse is over a hex, the pointer takes one of the following forms:

The active unit can fire into the hex under the pointer. As with the map, the color of the pointer is significant. Green crosshairs indicate that the unit can move to the hex. Green, yellow, orange, and red crosshairs indicate increasing risk of becoming "winded."

Unit movement is controlled using the left mouse button and a technique called "drag-and-drop." Basic drag-and-drop movement works by clicking on a unit with the pointer over the unit, press and hold down the left mouse button. The pointer icon changes to a circle with the unit's movement point icon in the center. Drag the pointer until the destination hex is reached and release the mouse button. The unit will move to the target hex. While dragging the mouse button with a unit selected, the pointer changes color indicating the risk of becoming "winded" for movement. A red pointer means the hex is out of reach. The pointer also changes to reflect a "projected" decrease in movement into that hex.

Units can be activated to simulate the effects of sustained effort by soldiers. Without the Automatic Vitality Recovery rules option, a pointer which is yellow means the hex is in range, but requires force marching to reach. A red pointer result in the unit becoming "winded."

When the mouse pointer is moved over a unit, information on the unit is displayed in the Active Unit panel at the bottom of the screen. All visible units can be surveyed by moving the mouse pointer around the map. Enemy units viewed this way do not display their orders or supply status, but give some indication of their weapons, armament, formation, and vitality.

Arrow Pointer

The arrow pointer is displayed if the unit can't fire into the hex under the pointer. The color of the pointer indicates whether or not a unit can move to the hex. The unit can reach a hex with a red pointer. Green and yellow pointers show hexes the unit can move to, although movement to a hex under a yellow pointer is tiring. A circle around the tip of the pointer indicates that a unit in that hex can be selected as the new active unit.

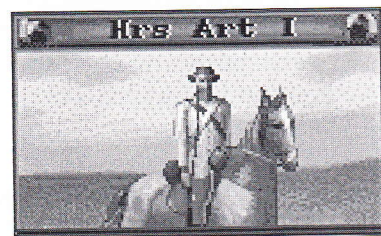
Buttons, Panels, and Menus

Unit Information

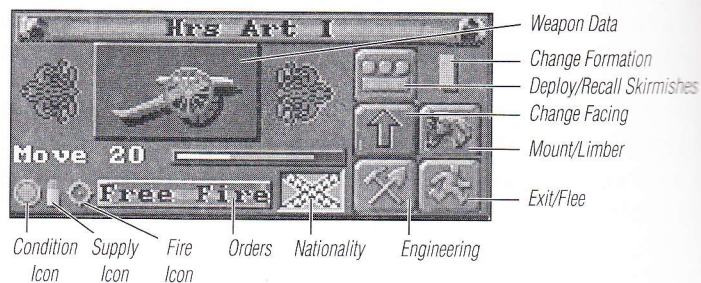
There are two or three large information displays available from the Active Unit controls depending upon the number of weapons assigned to the unit.

The name of the active unit appears on the brass plate just below the Information bar. Below that, in the lower left-hand corner, is a unit picture showing troops in uniform. This is the Unit Info display, where a maximum of eight figures can appear. Each figure represents 100, 200, or 400 soldiers depending on the scale; 100 soldiers in a 100 yard/10 minute turn scale scenario, 200 soldiers in a 200 yard/20 minute turn scale scenario, and so on. For example, a unit with seven figures displayed would have 700 men in it in the 100 yard scale, 1400 men in the 200 yard scale, and 2800 men in the 400 yard scale. The maximum effective size of a unit is also limited by the scale of the scenario since only a certain number of soldiers using the formations employed could be brought to bear in the area represented by a hex.

This picture is actually a large button. Left-clicking on it opens a window which displays detailed information on the unit including: complement, leaders, armament, ammunition supply, weapon effectiveness, morale, capability, and vitality.



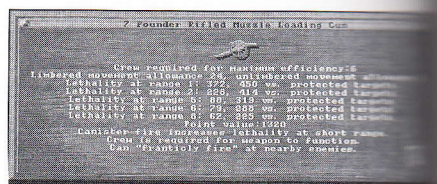
Active Unit Panel



Other important information about the unit's participation in the battle, such as whether or not the unit is under fire, wounded, or "digging in" (creating hasty defensive works), is displayed at the bottom of the window.

Weapons

Next to the unit info button there is a button for each of the weapon types assigned to the unit. Left-click on these buttons for detailed information on the weapons including weapon type, crew status (if any), effectiveness at specific ranges, point value, and any specific details about the weapon from the AGE OF RIFLES data base.



Movement

Beneath the Weapons button(s) is the word **Move** followed by a number and a colored bar. The number represents the remaining movement points allotted to the particular unit. The bar is a graphical representation of the same information; the amount of the bar that is green represents how much the unit may move without becoming "winded."

Winded Units

A unit which repeatedly moves into a yellow shaded hex, or to a hex that is represented by a yellow arrow or a yellow movement pointer, becomes "winded." Winded units fight less effectively, losing 10% of their melee value, and do not recover vitality during the rest period of the turn. A unit's strength and movement rate also begins to drop as it becomes exhausted. Units may also become winded as a result of some forms of combat, particularly if they are on the losing end.

Recovery from winded status requires that the unit remain static for at least one turn, preferably resting in Disordered formation. Once a unit recovers from being winded, it may start recovering vitality normally during the "periodic checks" phase of the turn.

Icons

The word **Move** are three icons, representing the unit's movement and whether or not the unit can fire this turn.

Condition Icon

The condition icon displays the current effectiveness of a unit's morale. The condition icon indicates the unit's condition, ranging from dark green meaning excellent. Some units' condition will occasionally go as far as red, it is usually routing and thus out of combat.

The unit's overall capability can be determined by moving the cursor and looking at the status bar. If a unit is routing, the condition icon has a slash through it.

Supply Icon

If a unit is out of supply the supply icon has a slash through it.

Fire Icon

Units who are able to fire, but have not yet done so, have the fire icon. If the unit cannot fire this turn the icon is not displayed.

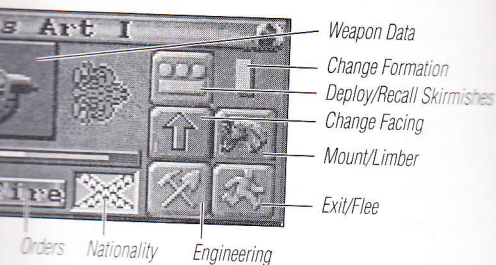
Reaction Orders (Rules Option)

Maneuvering of units and engaging in combat can happen by issuing reaction orders. Units can be under automatic orders to fire on, or charge and assault enemy units during the enemy phase of the turn. The types of automatic orders are based on the type of unit. Mounted cavalry units can be given "reaction fire" orders. "Hold Fire" orders, units are directed not to automatically engage enemy units nearby during the enemy phase. When a reaction order is issued, the maximum range at which a unit can react is determined. When playing a small scale scenario, a Near Fire order directs units that move or fire within 2 hexes.

REACTION DISTANCES TABLE

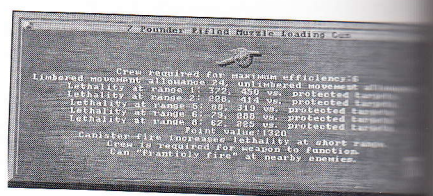
REACTION ORDER	100 YD SCALE	200 YD SCALE
Free Fire or Move	3	2
Near Fire or Move	2	1 (adjacent)
Wait Fire or Move	1 (adjacent)	1
Counter Fire	Wpn Range	Wpn Range
Hold Fire or Move	No reaction	No reaction

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information about the unit's participation in the battle. The unit is under fire, wounded, or "digging in" (creating hasty defenses) displayed at the bottom of the window.

button there is of the weapon unit. Left-click detailed information including status (if any), specific ranges, point value, and any specific details about the unit's data base.



button(s) is the word Move followed by a number and a unit represents the remaining movement points allotted to the unit. A graphical representation of the same information, the unit is green represents how much the unit may move without

unit moves into a yellow shaded hex, or to a hex that is represented by a yellow movement pointer, becomes "winded" and is less effectively, losing 10% of their melee value, and do not move for the rest period of the turn. A unit's strength and movement points are depleted as it becomes exhausted. Units may also become wounded as a result of combat, particularly if they are on the losing end.

unit status requires that the unit remain static for at least one turn. A unit's status is ordered formation. Once a unit recovers from being wounded, it is normally during the "periodic checks" phase of the turn.

Icons

The word Move are three icons, representing the unit's capability, supply status, and whether or not the unit can fire this turn.

Condition Icon

The condition icon displays the current effectiveness of a unit in terms of its vitality. The condition icon indicates the unit's current condition by the color of the icon, ranging from dark green meaning excellent to orange meaning poor. Some units' condition will occasionally go as far as red, but by the time a unit's condition is red, it is usually routing and thus out of control.

A unit's overall capability can be determined by moving the mouse pointer over the unit and looking at the status bar. If a unit is routing or otherwise not available for orders, the condition icon has a slash through it.

Supply Icon

If a unit is out of supply the supply icon has a slash through it.

Fire Icon

Units who are able to fire, but have not yet done so, have a fire icon displayed. If a unit cannot fire this turn the icon is not displayed.

Reaction Orders (Rules Option)

Maneuvering of units and engaging in combat can happen both by conscious choice or by issuing reaction orders. Units can be under automatic reaction orders, which permits them to fire on, or charge and assault enemy units which move or fire nearby during the enemy phase of the turn. The types of automatic orders that a unit can accept are based on the type of unit. Mounted cavalry units can be given "reaction move" orders, and others can be given "reaction fire" orders. By giving "Hold Move" or "Hold Fire" orders, units are directed not to automatically respond to the actions of enemy units nearby during the enemy phase. When Free, Near, or Wait orders are issued, the maximum range at which a unit can react is established. For example: when playing a small scale scenario, a Near Fire order directs the unit to fire on enemy units that move or fire within 2 hexes.

REACTION DISTANCES TABLE

REACTION ORDER	100 YD SCALE	200 YD SCALE	400 YD SCALE
Free Fire or Move	3	2	1 (adjacent)
Near Fire or Move	2	1 (adjacent)	1 (adjacent)
Wait Fire or Move	1 (adjacent)	1 (adjacent)	1 (adjacent)
Counter Fire	Wpn Range	Wpn Range	Wpn Range
Hold Fire or Move	No reaction	No reaction	No reaction

There is no cost for changing reaction orders, and the range for the selection is shown in the Information bar, below the Map window, when a change is made.

Regardless of the orders units are given, they may automatically react if enemies enter an adjacent hex or fire upon them. Units that are poorly-trained or have low morale may "Fire Frantically" because their urge for self-preservation, or their desire to win combat, overcomes their willingness to obey their orders. This is less likely with well-trained or low-morale units for different reasons. Well-trained soldiers use their wits, while those with low morale either panic or freeze.

Note: Automatic reaction orders can cause a unit to expend much of its movement allotment on the enemy's phase, leaving it unable to move fully during its own phase, although it will always be able to fire.

National Flag

This indicates the national affiliation of the currently selected unit or the unit nearest the mouse pointer.

Deploy Skirmishers (Rules Option)



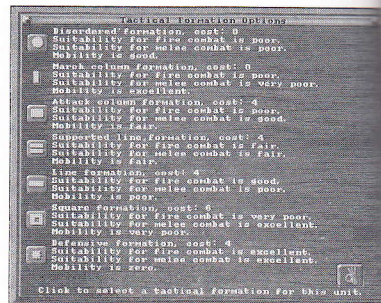
Some units can detach a portion of their troop strength to become skirmishers. These troops deploy some distance in front of the parent unit to harass enemy units by fire and screen the main body of their unit from enemy small arms fire. Skirmishers can only be deployed by units in Attack Column, Supported Line, and Line formations.

Skirmishers have a significant effect on the unit's performance in fire combat, but have no effect on melee and are automatically recalled immediately when adjacent to an enemy unit or prior to the first round of any melee combat. Having skirmishers deployed slows movement in any formation by one point per hex.

Tactical Hint: It is almost always beneficial to keep skirmishers deployed, if units are capable of skirmishing, unless attempting to maximize enemy losses to fire, or you are unworried about exposure to enemy ranged fire.

Change Formation (Rules Option)

The formation of any non-naval, non-artillery unit can change at any time as long as the unit has sufficient movement allowance remaining. The cost to change formation depends on the type of unit, its level of training, and the nearness of enemy units. Most formations require a minimum level of training, and some or all units may be limited in their selection



available formations. If the formation can be changed, the button is shown in the Active Unit panel. Left-click on the button to change the formation.

Depending upon unit's level of training, the following formations are available:

FORMATION	FIRE EFFICACY	MELEE EFFICACY
Disordered	Poor	Poor
Attack Column	Very Poor	Very Poor
Supported Line	Poor	Good
Line	Fair	Fair
Defensive Order	Excellent	Poor
Square	Excellent	Excellent
Other	Fair	Excellent

Formation Notes:

Disordered: Best used to rest units and a likely result of movement.

Attack Column: Best used to move units for long distances.

Attack Column: Best used for melee (hand-to-hand) combat.

Supported Line: A good compromise between Attack Column and Line.

Line: Best used for fire combat. Line requires at least a "Good" level of training.

Defensive order: A special case of the Disordered formation used to defend in trenches, redoubts, towns and villages.

Square: Best used to defend against melee combat. Requires a "Good" level of training.

Square: Best used to defend against melee combat. Requires a "Good" level of training.

Change Facing (Rules Option)



The facing of any unit in any formation, Square, or Defensive Order can be changed, as long as the unit has at least one movement point remaining. When a unit moves, it faces in its direction of movement. If the unit's facing can change, a facing button also appears in the Active Unit panel. Left-click on the button to change the unit's facing.

As a default setting, a unit's facing can also be changed by right-clicking in a hex that the unit should face. This can be changed by selecting the Right Mouse Button option under the Play menu. See the "General Play Options" section on page 16.

for changing reaction orders, and the range for the selection bar, below the Map window, when a change is made. When orders are given, they may automatically react if exposed to a hex or fire upon them. Units that are poorly-trained or have low morale are "frantic" because their urge for self-preservation, or their unwillingness to obey their orders. This is less likely with well-trained soldiers. Low-morale units for different reasons. Well-trained soldiers with low morale either panic or freeze.

Reaction orders can cause a unit to expend much of its movement points during its phase, leaving it unable to move fully during its own phase. Units may be able to fire.

Formation notes:

Disorder (Rules Option)

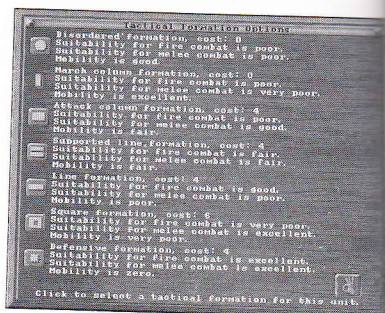
Units can detach a portion of their troop strength to form skirmishers. These troops deploy some distance in front of the main body of units by fire and screen the main body of their unit from enemy fire. Skirmishers can only be deployed by units in Attack Column, Line, and Line formations.

Skirmishers have a significant effect on the unit's performance in fire combat. Units in Disorder are automatically recalled immediately when adjacent enemy units are within range of any fire. Having skirmishers in front of the unit's movement in any formation by one point per hex.

It is almost always beneficial to keep skirmishers deployed, if units are not being recalled, unless attempting to maximize enemy losses to fire. Units are not exposed to enemy ranged fire.

Disorder (Rules Option)

Any non-naval, non-air unit can change at any time as long as it has sufficient movement points. The cost to change formation depends on the type of unit, its current formation, and the nearness of enemy units. Formations require a certain amount of training, and some units are not allowed in their selection



depending upon unit's level of training, the following formations may be allowed:

	FIRE EFFICACY	MELÉE EFFICACY	MOBILITY
Disordered	Poor	Poor	Good
March Column	Very Poor	Very Poor	Excellent
Attack Column	Poor	Good	Fair
Supported Line	Fair	Fair	Fair
Line	Excellent	Poor	Poor
Square	Excellent	Excellent	Zero
Defensive Order	Fair	Excellent	Poor

Formation notes:

Disordered: Best used to rest units and a likely result of melee combat.

March Column: Best used to move units for long distances.

Attack Column: Best used for melee (hand-to-hand) combat.

Supported Line: A good compromise between Attack Column and Line formations.

Line: Best used for fire combat. Line requires at least a "Good" level of training.

Defensive order: A special case of the Disordered formation, this can only be used to defend in trenches, redoubts, towns and villages.

Square: Best used to defend against melee combat. Square requires at least a "Good" level of training.

Change Facing (Rules Option)



The facing of any unit in any formation other than Disordered, Square, or Defensive Order can be changed at any time, for no cost, as long as the unit has at least one movement point left. When a unit moves, it faces in its direction of travel. If the facing can change, a facing button also appears in the active unit panel. Left-click on the button to change the unit's facing.

As a default setting, a unit's facing can also be changed using a configurable mouse button by right-clicking in a hex that the unit should face. This option can be changed by selecting the Right Mouse Button option under General Play Options in the Play menu. See the "General Play Options" section on page 24 for more information.

Each unit "faces" or points in a particular direction on the map. In general, units can react more effectively to things that happen in front of them. Facing has little effect on naval units and those in Disorder, Defensive Order, or Square formation, but it does have a strong effect on movement and combat for other units. This is particularly true for units equipped with crew-served weapons such as cannons and machine guns.

For each unit, the map is divided into four zones. Hexes within 60 degrees of a line extending from the front of the unit are within the unit's forward zone. Hexes within 60 degrees of a line extending from the rear of the unit are in the unit's rear zone. The remaining hexes on each side are within the unit's flank zones. If mouse control is set to the Alternate setting in the General Play Options menu, these zones by left-clicking on a unit on the map.

The effects of facing are described in the rules sections dealing with "Movement" and "Combat" on page 28.

Mounting or Dismounting

Units can change mount status (mount/dismount for horse mounted troops, limber/unlimber for artillery) if it has mounts and has sufficient remaining movement allowance for this turn. Artillery units must also have sufficient remaining movement allowance to be able to limber or unlimber. If a unit's mount status can change, the horse head icon in the active unit panel becomes a button. Left-click on this button to change the unit's mount status.

Note: If an artillery unit suffers casualties beyond its limber level, it abandons a proportion of its guns if forced to mount/limber. Dismounted cavalry units have their strengths reduced by 20% for most purposes, since a portion of their troops are detailed to keep an eye on their horses.

Exit from Map Edge

 If the unit is on a map edge, an Exit or Flee button may appear. Left-clicking on this button if the unit should leave the map. In some cases there may be victory points awarded for exiting units from the map. There is no penalty for exiting units, although they can never be brought back into play once removed.

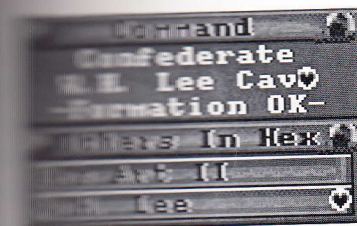
Battlefield Engineering

 Units can stop to create breastworks or remove abatis if this button is available.

Abatis are improvised barricades with little defensive value, but slow movement across them. Left-clicking this button causes a unit ending its movement in a hex with an abatis and movement points left to destroy the abatis as soon as it passes the capability check. This process uses all remaining movement.

Breastworks are hasty defensive works constructed from earth. Left-clicking this button causes a unit ending its movement in a hex with movement points left to throw up a breastwork as soon as it passes the capability check. While "Digging In" the unit is in disordered formation. When the breastworks are finished, then the unit assumes defensive formation.

Command Panel



This panel displays the unit's command, and the unit's current formation.

Others in Hex Panel

This display is shown when a unit is selected. It lists any other units in the hex. As the active unit with the horse head icon, it can be selected.

Left-clicking on that button makes that unit the active unit. The active unit is listed using a bronze button with the command on the right. Any attached sub-leader's name appears as a star. If a button is shown as a raised button, it can be selected.

Leaders (Rules Option)

Selecting a leader's name by right-clicking on it brings up a leader information display including the command, the unit to which he is attached, his command radius, and reveals the leader's bravery, charisma and leadership. Buttons on this display show the leader's actual command radius, and allow his assignment to be changed.

Units which have leaders attached to them are indicated on the map by national flags next to the Wallop Factor bar.

Reassigning or Detaching Leaders

From the leader information display leaders can be reassigned to a different unit, the same command, if the conditions are right, or detached. Buttons appear indicating these options.

Leaders may only be reassigned to units of their command radius. The command radius may be no greater than the command radius of the leader, and the unit must be in a hex free of enemy influence and impassable terrain before being reassigned to a new unit. A leader may only be reassigned once per turn. To see which units are eligible to receive the leader, then scroll the map so that the unit which is visible, before left-clicking the leader button. Once the unit is visible, the map cannot be scrolled.

or points in a particular direction on the map. In general, units move effectively to things that happen in front of them. Factors such as Disorder, Defensive Order, or Squared Movement points have a strong effect on movement and combat for other units. For units equipped with crew-served weapons such as cannons,

map is divided into four zones. Hexes within 60 degrees of the front of the unit are within the unit's forward zone. Hexes of a line extending from the rear of the unit are in the unit's rear zone. Hexes on each side are within the unit's flank zone. The Alternate setting in the General Play Options menu allows left-clicking on a unit on the map.

are described in the rules sections dealing with "Movement" on page 28.

Mounting

mount status (mount/dismount for horse mounted troops, or for artillery) if it has mounts and has sufficient remaining movement for this turn. Artillery units must also have sufficient movement or unlumber. If a unit's mount status can change, the unit's active unit panel becomes a button. Left-click on this button to change mount status.

If a unit suffers casualties beyond its limber level, it abandons its mounts if forced to mount/limber. Dismounted cavalry units have a movement penalty of 20% for most purposes, since a portion of their troops are on their horses.

Edge

If a unit is on a map edge, an Exit or Flee button may appear. Left-click on this button to remove the unit from the map. In some cases there may be a button for exiting units from the map. There is no penalty for exiting units; they can never be brought back into play once removed.

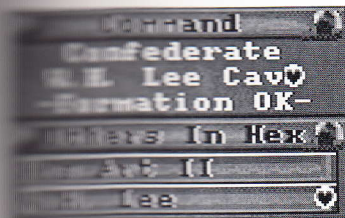
Digging

Left-click on this button to create breastworks or remove abatis if this button is available.

Left-click on this button to create breastworks or remove abatis if this button is available. Left-clicking this button causes a unit ending its movement in a hex to use movement points left to destroy the abatis as soon as it passes. The process uses all remaining movement.

Left-clicking this button causes a unit ending its movement in an appropriate hex to use movement points left to throw up a breastwork as soon as it passes a capability check. While "Digging In" the unit is in disordered formation until the breastwork is finished, then the unit assumes defensive formation.

Command Panel



This panel displays the name of the Active Unit's command, and that command's status.

Others in Hex Panel

This display is shown below the Command panel. It lists any other unit in the same hex as the active unit with a steel-colored button;

left-clicking on that button makes that unit the active unit. Any leader attached to the active unit is listed using a bronze button with the command's icon appearing on the right. Any attached sub-leader's name appears as a steel button. If a name is shown as a raised button, it can be selected.

Leaders (Rules Option)

Selecting a leader's name by right-clicking on it brings up a display of information on that leader including the command, the unit to which he is attached, his command radius, and reveals the leader's bravery, charisma and competence ratings. Buttons on this display show the leader's actual command radius on the Map screen, and allow his assignment to be changed.

Units which have leaders attached to them are indicated on the game map by small national flags next to the Wallop Factor bar.

Reassigning or Detaching Leaders

From the leader information display leaders can be reassigned to another unit of the same command, if the conditions are right, or detached with a bodyguard. If so, buttons appear indicating these options.

Leaders may only be reassigned to units of their command. The transfer distance may be no greater than the command radius of the leader, and there must be a path of hexes free of enemy influence and impassable terrain between the original and new unit. A leader may only be reassigned once per turn. Left-click on the button to see which units are eligible to receive the leader. Then left-click on an eligible unit to complete the reassignment. **Note:** It may be necessary to select the unit containing the leader, then scroll the map so that the unit which will receive the leader is visible, before left-clicking the leader button. Once the button has been pressed, the map cannot be scrolled.

Detaching a leader with a bodyguard actually creates a new, small unit (with 10 or 50 men depending on scenario scale). Click on the Detach with Bodyguard button, then click anywhere or press any key to complete the process.

Organizing the bodyguard expends its movement, so the bodyguard cannot move in the turn it is created. This bodyguard unit is part of that leader's command and moves and fights independently. If the leader is reassigned to another unit, the bodyguard is absorbed into that unit.

Whenever a leader is transferred, there is always a small chance that the leader becomes a casualty. This chance is increased if enemy units are nearby, or if conditions are poor. During twilight or night turns there is even a chance that a leader may accidentally be incapacitated by friendly fire. Because of the chances of losses, leaders should only be transferred if necessary in order to end the turn, rally friendly units, increase the chances of rallying routed units, or to save the leader from a doomed unit. If possible, transfers should be avoided if enemy units are in the vicinity, or at night.

Microview Map

The Microview is a smaller version of the Overview Map. It is a miniature view of the battlefield, with the each side's units visible as either brass or steel colonnades depending on the color of their Wallop Factor bar. The current Map window is represented as a yellow frame which can be dragged using the mouse pointer to move the Map window. All units in the command of the active unit flash yellow to indicate their location. Visible enemy units appear as dots of the color of their Wallop Factor bar. The Microview map can be used to quickly move around the battlefield by left-clicking directly on it.

Buttons

On the right edge of the screen is a row of buttons which display information about or alter control of units and commands on the Map window.

Scenario Environment



The Environment button calls up a quick description of the physical environment of the scenario. This describes lighting conditions, precipitation, ground condition, wind, and time of day. The button itself shows some of this information: the crescent moon indicates nighttime, the half-sun indicates dusk or dawn, rain or clouds indicate some level of precipitation.

Field of View

The Field of View button temporarily shows the field of view of the active unit. This display can also be activated by left-clicking on the Field of View option has been selected using the General Configuration dialog box or by configuring the right or third mouse button.

Unit Graphics

The default icon is the Stand icon. Use the Graphics button to choose between Stand icon, Counter icon, and Miniature icon.

Each unit in AGE OF RIFLES can be represented by one of three forms. One form is a figure representing the unit's nationality, mounted on a marble base, reminiscent of a wargame miniature. This is the Stand Icon. The color of the base is a quick indicator of the unit's nationality.

Another icon is the Miniature icon which shows the unit's nationality on the colored base.

The third icon called the Counter icon is a small square piece complete with universal military symbols for infantry, cavalry, or artillery. This icon shows the unit's formation in one corner, below a symbol for the command. An arrowhead in the center of the icon indicates the unit's direction.

Hexide Toggle



The Hex Grid button turns display of the hex grid on or off.

Wallop Factor Bar



Each unit has two combat strengths:

Fire Strength: This strength is used to attack enemy units at a distance. This strength rating decreases with range.

Melee Strength: This strength is used to attack enemy units in close combat.

In both cases a unit's strength is based on its formation number and type of weapons assigned.

er with a bodyguard actually creates a new, small unit (depending on scenario scale). Click on the **Detach with Bodyguard** button or press any key to complete the process.

bodyguard expends its movement, so the bodyguard cannot be created. This bodyguard unit is part of that leader's command and moves independently. If the leader is reassigned to another unit, the bodyguard is absorbed into that unit.

er is transferred, there is always a small chance that the unit will be killed. This chance is increased if enemy units are nearby, or if the unit is wounded. During twilight or night turns there is even a chance that a unit will be incapacitated by friendly fire. Because of the chance of being killed, a unit should only be transferred if necessary in order to end the turn. To increase the chances of rallying routed units, or to save the unit, transfers should be avoided if enemy units are nearby. If possible, transfers should be avoided if enemy units are nearby.

Map Window
A smaller version of the Overview Map. It is a miniature version of the map showing the each side's units visible as either brass or steel colored miniatures. The color of their Wallop Factor bar. The current Map window is a small window frame which can be dragged using the mouse pointer to move it. All units in the command of the active unit flash yellow to indicate they are visible. Visible enemy units appear as dots of the color of their Wallop Factor bar. The Overview map can be used to quickly move around the battlefield and select units on it.

the screen is a row of buttons which display information about the units and commands on the Map window.

Environment
The Environment button calls up a quick description of the environment of the scenario. This describes lighting conditions, precipitation, wind, and time of day. The button itself shows some of the environment. A crescent moon indicates nighttime, the half-sun indicates dusk, and a cloud indicates some level of precipitation.

Field of View

The **Field of View** button temporarily shows the field of view of the active unit. This display can also be activated by left-clicking on the active unit. The **Field of View** option has been selected using the **General Play Options** menu setting or by configuring the right or third mouse button.

Unit Graphics

The default icon is the **Stand** icon. Use the **Unit Icon Mode** button to choose between **Stand** icon, **Counter** icon, and **Miniature** icon modes.



Each unit in AGE OF RIFLES can be represented in one of three ways. One form is a figure representing the unit's main type of soldier on a marble base, reminiscent of a wargame miniature. This is called the **Stand Icon**. The color of the base is a quick way of identifying the nationality of the unit.



Another icon is the **Miniature** icon which is the stand icon without the colored base.



The third icon called the **Counter** icon is similar to a board wargame piece complete with universal military symbols for infantry, cavalry, or artillery. This icon shows the unit's remaining movement points in one corner, below a symbol for the command the unit is attached to. An arrowhead in the center of the icon indicates the unit's facing.

Hexside Toggle



The **Hex Grid** button turns display of the hex grid overlay on and off.

Wallop Factor Bar



Each unit has two combat strengths:

Fire Strength: This strength is used to attack enemy units at ranges of one or more hexes. This strength rating decreases with range.

Melee Strength: This strength is used to attack enemy units in hand-to-hand combat.

In both cases a unit's strength is based on its formation, overall capability, and the number and type of weapons assigned.

The Wallop Factor button toggles how these combat strengths are displayed. Colored dots appearing on the Wallop Factor bar display the capability status. The flashing light on the left displays movement status where green means the unit has normal movement remaining and yellow means the unit must form up.

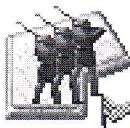
They can be displayed as:



Fire and melee values.



Combined fire and melee plus the remaining movement value.



No Wallop Bar

See the "Combat" section on page 28 for more information on how fire combat and melee combat function.

Swap Stacking



Except for the active unit, the Stack Swap button changes the stacking order of every unit on the map.

Orders Scope

The current orders scope determines how many units are maneuvered at one time. The orders scope can be changed at any time by left-clicking on this button. It will alter to one of three settings:



Orders by Unit: Any orders given apply only to the active unit which is indicated by a *single white line* surrounding it. This is the most commonly used orders scope.



Orders by Stack: Orders apply to the current unit and any units of its command stacked with it. This scope setting is indicated by a *double white line* surrounding the active stack.



Command Orders: These orders affect all units in the active command — all available units fire at or move toward the selected hex. Affected units are indicated by a yellow banner. During command movement, individual units try to maintain their position, relative to other units in their command, while they

maneuver orders. The stack and formation scope options allow more than one unit. **Note:** Check the Microview button to see if adjacent units are adjacent when giving formation orders. Units may abandon vital positions to carry out

Next Unit



Left-clicking on this button jumps to the next unit in the command.

Previous Unit



Left-clicking on this button jumps to the previous unit in the command.

Confederate 1st Inf. Div.			
Commanded by G. M. Lee, who's leadership ability is good.			
Morale is good.			
Supply level is good.			
Weapons		Move	Reaction
274xSS	1A Carbine, 272xSabre	25/25	25/25
500xSS	Shotgun, 300xSabre	25/25	25/25
500xSS	Carbine, 500xSabre	25/25	25/25
400xSS	Shotgun, 400xSabre	25/25	25/25
300xMF	1A Carbine, 500xSabre	1/1	1/1

Command Details



This button opens a window which displays the supply levels of the command, and lists every unit in the command. It allows you to review the move, reaction order, and readiness of every unit in the command quickly. Units are listed by name, followed by the universal symbol of their unit type (infantry, artillery, cavalry, etc.). To select a specific unit on the map, simply left-click on that unit's name. A brass button showing the universal military symbol for the unit's capability stripe. The next column has the unit's move, reaction orders and readiness.

A button marked Reaction in the top right corner cycles through the reaction orders of all units in the command through Hold Fire, Free Fire, and Counter Fire. The OK button in the lower right corner closes the window.

Next Formation



Left-clicking on this button jumps to the next formation in the command.

Previous Formation



Left-clicking on this button jumps to the previous formation in the command.

button toggles how these combat strengths are displayed. The Wallop Factor bar display the capability of the unit. The left displays movement status where green means movement remaining and yellow means the unit must form up as:

and melee values.

combined fire and melee plus the remaining movement value.

Wallop Bar

on page 28 for more information on how fire combination.

the active unit, the Stack Swap button changes the stacking order unit on the map.

scope determines how many units are maneuvered at one time. It can be changed at any time by left-clicking on this button. It will be in the following settings:

Unit: Any orders given apply only to the active unit which is surrounded by a single white line surrounding it. This is the most commonly used setting.

Stack: Orders apply to the current unit and any units of its type stacked with it. This scope setting is indicated by a double white line surrounding the active stack.

Orders: These orders affect all units in the active command — units fire at or move toward the selected hex. Affected units are shown in a yellow banner. During command movement, individual units try to move in the direction of the command, relative to other units in their command, while they

are following orders. The stack and formation scope options permit simultaneous movement of more than one unit. **Note:** Check the Microview map to be sure that all units given a command are adjacent when giving formation scope orders; otherwise, some units may abandon vital positions to carry out unintended orders.

Next Unit



Left-clicking on this button jumps to the next unit in the current command.

Previous Unit



Left-clicking on this button jumps to the previous unit in the current command.

Confederate 9th LA Cavalry			
Commanded by G. M. Lee, whose leadership ability is good.			
Morale is good.			
Supply level is good.			
Weapon	Move	React	Status
274xSS LA Carbine, 272xSabre	25/25	Near	At rest
300xSS Shotgun, 300xSabre	25/25	Near	Ready
500xSS Carbine, 500xSabre	25/25	Near	Ready
400xSS Shotgun, 400xSabre	25/25	Near	Ready
500xMF LA Carbine, 500xSabre	1/1	Near	Ready

Command Details



This button opens a window which displays the leader, the morale and supply levels of the command, and lists every unit assigned to it. It is a way to review the move, reaction order, and readiness status of the units in that command quickly. Units are listed by name, followed by a button marked with the universal symbol of their unit type (infantry, artillery, cavalry, and so on). To jump to a specific unit on the map, simply left-click on that unit's button, represented by a brass button showing the universal military symbol for that unit type and a colored capability stripe. The next column has the unit's armaments, followed by move, reaction orders and readiness.

A button marked Reaction in the top right corner cycles through the reaction orders of all units in the command through Hold Fire, Free Fire, Near Fire, Wait Fire, and Counter Fire. The Ok button in the lower right corner returns to the Map window.

Next Formation

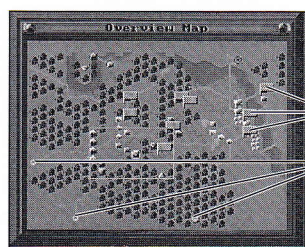


Left-clicking on this button jumps to the next command.

Previous Formation



Left-clicking on this button jumps to the previous command.



Objectives

Supply Points

Overview Map



The Overview Map button calls up the overview, which shows the map on a scale halfway between that of the map window and the Microview panel. The objective hexes for the current scenario are shown on the map as small national flags. Known units are shown as arrow symbols indicating facing, while supply points are shown as a circle with a wagon symbol in the color of the owning side.

Scenario Report



The Report button opens a window which displays information on the important facets of the current scenario: the situation, the victory status, the force status of the phasing side and a list of the Rules Options currently in effect.

The situation contains the scenario name, the circumstances, scale, turn number and expected length of the scenario. The victory status describes who is winning and losing based on objectives possessed by the respective sides. The force status describes the number and types of troops on the map and expected reinforcements, and the overall state of the force in casualties, morale, and vitality.

It's a good idea to check this report at the very beginning of each scenario, and from time to time during play.

Undo



The Undo button allows most movement orders to be taken back. If using the Full Undo Rules option, this can be used to correct errors, or as a powerful "cheat" feature. If playing a two player game the use of the undo button should be agreed on beforehand. The limited Undo function only affects three types of action: movement which does not reveal an unseen unit or result in fire or melee combat, formation changes, and facing changes.

End Turn



Clicking the End Turn button to end the phasing side's turn. When the button is left-clicked, AGE OF RIFLES requests confirmation to end the turn. It then processes a sequence of periodic actions, including security and automatic reactions. See the "Periodic Actions" section for a complete list.

Game Menu

File Menu

The File menu gives access to various file related operations:

New Scenario: Begins a new scenario without exiting the program.

Load Game: Prompts to restart a saved game from the previous session in a Play-by-Email game.

Save Scenario: Saves the current game for later play.

End Scenario: Immediately ends the scenario. Of course, victory may not have been met if the scenario is ended.

Exit Editor: Exits the game and enters the Scenario Editor. See the section on page 41 for more information.

Return to Main Menu: Quits the current scenario and returns to the main menu.

Play Menu

This menu includes the following items: General Play Options, Computer Player.

General Play Options

General Play Options calls up a Control panel for customizing the game.

The Movement Paths option determines whether or not to display movement paths for the active unit. While helpful, this is only a projection; any number of things can happen during a unit's movement, preventing it from reaching a destination or encountering an enemy unit.

The Movement Limits option toggles an overlay of movement limits. The default for this option is on; hexes the unit can't move to are highlighted. As with the movement path display, this is only a projection. Things can happen during a unit's movement, preventing it from reaching a destination. Play with this option off to optimize performance.



Objectives

Supply Points

Map button calls up the overview, which shows the map at a scale halfway between that of the map window and the objective hexes for the current scenario are shown with flags. Known units are shown as arrow symbols indicating movement. Supply points are shown as a circle with a wagon symbol inside.

Map button opens a window which displays information on the current scenario: the situation, the victory status, the current side and a list of the Rules Options currently in effect.

The scenario name, the circumstances, scale, turn number, and the scenario. The victory status describes who is winning the scenario. The objectives possessed by the respective sides. The force status and types of troops on the map and expected as reinforcements. The state of the force in casualties, morale, and vitality.

This report at the very beginning of each scenario, and from

on allows most movement orders to be taken back. If using the undo option, this can be used to correct errors, or as a powerful tool when playing a two player game the use of the undo button is useful. The limited Undo function only affects three moves which does not reveal an unseen unit or result in fire or facing changes, and facing changes.

Buttons

End Turn The End Turn button to end the phasing side's game turn. When this button is left-clicked, AGE OF RIFLES requests confirmation that the turn is to be ended. If confirmed, the game then processes a sequence of periodic checks of morale, unit supply, and automatic reactions. See the "Periodic Checks" section on page 41 for a complete list.

Game Menus

File Menu

This menu gives access to various file related operations:

New Scenario Begins a new scenario without exiting the program.

Load Game Prompts to restart a saved game from the point where it was saved. This is a Play-by-Email game.

Save Scenario Saves the current game for later play.

End Scenario Immediately ends the scenario. Of course, victory conditions set for the scenario may not have been met if the scenario is ended early.

Scenario Editor Exits the game and enters the Scenario Editor. See the "Scenario Editor" section on page 41 for more information.

Return to Main Menu Quits the current scenario and returns to the Main Menu screen.

Play Menu

This menu includes the following items: General Play Options, Combat Reporting, and Computer Player.

General Play Options

General Play Options calls up a Control panel for customizing the game:

The Movement Paths option determines whether or not to continuously display movement paths for the active unit. While helpful, this can slow the game down. Also, the paths shown are only projections; any number of things can happen during a unit's movement preventing it from reaching a distant destination, such as encountering an enemy unit.

The Movement Limits option toggles an overlay of movement limits on the map. The default for this option is on; hexes the unit can't move to are shaded with a reddish overlay. As with the movement path display, this is only a projection. Any number of things can happen during a unit's movement, preventing it from reaching a distant destination. Play with this option off to optimize performance.

The Mouse Control option allows a choice between Standard mouse controls and Alternate mouse controls. See the "Using the Mouse" section on page 10 for information on mouse control modes. When using a three-button mouse in Standard mode, the center button is ignored and the right button can be used. In the Alternate mode, the center button can be configured and the left button selects or fires the selected unit.

The Auto Unit Centering option turns auto centering of units on or off. When units are automatically centered if they are off the map when selected. The position hex for a moving unit is also centered if it falls at the edge of the map. Centering can cause the map to jump around some, particularly if the "Zoom In" or "Zoom Out" orders are chosen. If off, units are only centered if a non-button mouse is used. The Active Unit panel is left-clicked on, or the unit moves near the edge of the map.

Use the Sound option to turn game sound effects on or off.

Use the Music option to turn game music on or off.

The Graphics button toggles between high- and low-resolution graphics. Playing with this off may improve speed of play in some cases.

The Animation control adjusts the level of detail visible in fire, smoke, combat, and water hexes. Playing with this off may improve speed of play in some cases.

Map Scrolling can be set to Instant Scroll or Delayed Scroll. The Instant Scroll setting causes the map to scroll as soon as the mouse pointer reaches the edge of the map and continue until the edge is reached or the pointer leaves the screen edge. The Delayed Scroll setting causes a brief delay before scrolling begins.

The Third Mouse Button / Right Mouse Button control toggles between four options for what happens when the right or center mouse button is clicked. This can be changed depending on whether or not Standard or Alternate mouse controls have been selected. The four options facilitate functions found elsewhere for quick use. The functions are: Undo, Show Field of View, Set Facing, and Active Unit Report. See the appropriate sections for more details about these functions.

Combat Reporting

Combat Reporting calls up a Control panel that allows a choice of how combat results are reported.

Report Delays only affects reporting which appears in the Information bar. The delay can be set to Short, Long, or Wait for Click.

Combat Report settings can be set to Intermittent, Brief, or Full. Intermittent shows the number of casualties, stragglers, and captives. Intermittent reports show all combat actions as they occur, step by step. Full reports are a combination of the two. After combat a window opens, in the top area of the screen, showing the results of the combat, followed by a summary at the bottom. Use the Report button to see which reporting scheme works best for you.

Computer Player

Computer Player selects which side the computer player controls. Computer play can be changed from here, or both sides can be set to have the computer play against itself.

Game Menu

The menu includes the following items: Age of Rifles, Weapons Database, and VCR Replay.

Age of Rifles displays version, copyright information, and other information.

Weapons Database brings up a list of weapons. The character of a weapon is examined by left-clicking on its name from the list. This shows the equipment used in the scenario.

Commands calls up a list of all commands assigned to the units. It shows the unit's point value, and general status for each command. Clicking on the name of the command opens the Command Details window. A command due as reinforcements is listed with the turn it is due.

Free Memory opens a window displaying the amount of free memory on the computer. This has no game effect, but may be useful in determining the game.

VCR Replay This option opens up the VCR window which shows the movement of the opposing player's movement. The map is based on the current position of the unit. The VCR window includes: Rewind, Done, Stop, Forward, and End.

ol option allows a choice between Standard mouse controls. See the "Using the Mouse" section on page 10 for mouse control modes. When using a three button mouse, the center button is ignored and the right button can be configured in alternate mode, the center button can be configured as a fire button, and the left button can be configured as a move button. The left button fires the selected unit.

Centering option turns auto centering of units on or off. Units are automatically centered if they are off the map when selected. The moving unit is also centered if it falls at the edge of the map. Use the map to jump around some, particularly if the center is chosen. If off, units are only centered if a non-button mouse is left-clicked on, or the unit moves near the edge of the map.

Sound on to turn game sound effects on or off.

Music on to turn game music on or off.

Graphics toggles between high- and low-resolution graphics. This improves speed of play in some cases.

Detail adjusts the level of detail visible in fire, smoke, combat, etc. Turning this off may improve speed of play in some cases.

Scroll set to Instant Scroll or Delayed Scroll. The Instant Scroll scrolls as soon as the mouse pointer reaches the edge of the map. The Delayed Scroll scrolls when the pointer leaves the screen edge. Delayed scrolling causes a brief delay before scrolling begins.

Mouse / Right Mouse Button control toggles between four options. The left or right mouse button is clicked. This can be used to turn on or not Standard or Alternate mouse controls have been used. These facilitate functions found elsewhere for quick use. The functions are Show Field of View, Set Facing, and Active Unit Report. See the manual for more details about these functions.

Results up a Control panel that allows a choice of how combat results are reported which appears in the Information bar. The delay can be set to Long, or Wait for Click.

Report settings can be set to Intermittent, Brief, or Full reports. Brief reports show the number of casualties, stragglers, and captured resulting from any combat. Intermittent reports show all combat actions in the Information bar, step by step. Full reports are a combination of Intermittent and Brief reports. After combat a window opens, in the top area specific combat details are shown, followed by a summary at the bottom of the window. Use the Report menu to set which reporting scheme works best for you.

Computer Player

Computer Player selects which side the computer player controls. The side that the computer plays can be changed from here, or both sides can be played by a human player. Both sides can have the computer play against itself.

Game Menu

The Game Menu includes the following items: Age of Rifles, Weapons Database, Commands, and VCR Replay.

Age of Rifles displays version, copyright information, and credits.

Weapons Database brings up a list of weapons. The characteristics of any weapon can be examined by left-clicking on its name from the list. This can be helpful with identifying unfamiliar equipment used in the scenario.

Commands calls up a list of all commands assigned to the current player, giving the unit's point value, and general status for each command, and allowing selection of any given command to show a fully detailed display of the chosen command. Clicking on the name of the command opens the Command Details window. A command due as reinforcements is listed with the turn it is expected to arrive.

Free Memory opens a window displaying the amount of free RAM available on the computer. This has no game effect, but may be useful in diagnosing problems with running the game.

VCR Replay This option opens up the VCR window which allows a replay of the opposing player's movement. The map is based on the Overview map, and indicates units as arrows pointing in the direction the unit is facing. The controls for the VCR window include: Rewind, Done, Stop, Forward, Fast Forward, and Fast Forward to End.

■ PLAYING THE GAME

What Happens During a Game Turn?

AGE OF RIFLES is played by turns, and in each turn things happen in a sequence.

The Game Performs Periodic Checks

- The game turn clock advances to the next turn.
- Weather and lighting conditions are updated.
- Each unit's capability is reviewed and updated. Supply checks are made, and supplies are distributed. Units attempt to hide, build breastworks, or reorganize. Stragglers may be reincorporated into units.
- The computer moves routed units.
- Reinforcements enter the map.
- Positions of known enemy units are updated.
- If the Variable Turn Initiative option is active, the computer determines who goes first.

See the "Periodic Checks" section, beginning on page 36, for more information.

Each Player Gives Orders to Their Forces

First one side, then the other, has a phase to maneuver their units and initiate combat. To end the phase, left-click on the End Turn button.

The Game Checks for End of Scenario

If the conditions for the end of the scenario have been met, the game ends. Victory points are tallied to determine the winner. If the scenario is not over, the game moves on to the next turn. See the "End of Scenario" section on page 40 for more information.

Game Mechanics

Scenario Environmental Effects (Rules Option)

There are several environmental variables that have strong effects on game play.

Ground conditions effect movement costs for entry into most terrain types. Some units are more affected by soft ground than others.

There are three levels of lighting: day, twilight (dawn or dusk), and night. Day is the brightest condition. Units can see further in daylight than in other conditions. Visibility is reduced during twilight, and significantly reduced at night.

...distance limits the distance that units can see. Light precipitation, smoke from large fires, and other sources. Heavy precipitation has a much more significant effect on game play. Movement takes place on frozen terrain, streams are treated as impassable.

Movement

Each unit in the game has a given movement point allowance based on their mount status, vitality, and the equipment they carry until it exhausts its allowance. Each hex moved has a cost. Units may move up to the limit of their movement allowance.

Movement beyond the green level of the unit's movement allowance is "forced march" and is particularly tiring. A unit which moves faster than is represented by a green arrow or a green "V" is "winded." Winded units fight less effectively, losing 10% of their vitality. A unit's strength and movement allowance becomes exhausted.

There are several things that can be done to maximize the movement of units.

- Mount or limber the unit.
- Recall skirmishers.
- Assume Attack or March Column, or Disordered formation.
- Move along roads if limbered or in March Column.

Any unit can be maneuvered by left-clicking on any map hex. The unit then moves to the selected hex. The color of the cursor indicates the cost of movement. Movement to a green pointer is normal movement. Movement to a yellow pointer orders the unit to force march to the destination. Movement to a red pointer orders the unit to move through specific hexes, select short lengths of movement.

Combat

Fire Combat

Depending upon the weapons assigned to them, most units can fire at enemy units at a distance. Whenever a crosshair cursor is over an enemy unit, the unit can be ordered to fire on an enemy unit under the crosshair.

GAME

ns During a Game Turn?

played by turns, and in each turn things happen in a fixed order.

Forms Periodic Checks

clock advances to the next turn.

ighting conditions are updated.

ability is reviewed and updated. Supply checks are made and units are routed. Units attempt to hide, build breastworks, or remove obstacles to be reincorporated into units.

moves routed units.

enter the map.

own enemy units are updated.

turn Initiative option is active, the computer determines who moves first.

Checks" section, beginning on page 36, for more information.

s Orders to Their Forces

the other, has a phase to maneuver their units and initiate attacks. To initiate an attack, left-click on the End Turn button.

s for End of Scenario

for the end of the scenario have been met, the game ends. The computer is called to determine the winner. If the scenario is not over, the game continues to the next turn. See the "End of Scenario" section on page 40.

s

mental Effects (Rules Option)

environmental variables that have strong effects on game play. These variables affect movement costs for entry into most terrain types. Some terrain types are affected by soft ground than others.

of lighting: day, twilight (dawn or dusk), and night. Day is the best time for units. Units can see further in daylight than in other conditions. At twilight, and significantly reduced at night.

precipitation limits the distance that units can see. Light precipitation reflects haze, smoke from large fires, and other sources. Heavy precipitation represents a storm and has a much more significant effect on game play.

When movement takes place on frozen terrain, streams are treated as dry; nevertheless, they are still impassable.

Movement

Each unit in the game has a given movement point allowance in any single turn based on their mount status, vitality, and the equipment assigned. A unit can move until it exhausts its allowance. Each hex moved has a fixed cost. Units may move up to the limit of their movement allowance, however, movement is not required.

Movement beyond the green level of the unit's movement allowance is called a "forced march" and is particularly tiring. A unit which repeatedly moves more than is represented by a green arrow or a green Wallop Bar light becomes "winded." Windied units fight less effectively, losing 10% of their melee value, and cannot recover vitality. A unit's strength and movement rate also begins to drop as it becomes exhausted.

There are several things that can be done to maximize the movement capability of units:

- Mount or limber the unit.
- Recall skirmishers.
- Assume Attack or March Column, or Disordered formation.
- Move along roads if limbered or in March Column.

Any unit can be maneuvered by left-clicking on any map hex. To the best of the unit's ability it then moves to the selected hex. The color of the mouse pointer shows the type of move. Movement to a green pointer is normal movement. Movement to a yellow pointer orders the unit to force march to the destination. The unit can't actually move to a hex with a red cursor. Movement between two hexes is determined by the computer's determination of the lowest cost in movement points and the shortest distance. In order to move through specific hexes, select short lengths of movement.

Combat

Fire Combat

Depending upon the weapons assigned to them, most units have the ability to fire at enemy units at a distance. Whenever a crosshair cursor appears on the map the unit can be ordered to fire on an enemy unit under the crosshair. Unless the selected unit

is in Square, Disordered, or Defensive formation it is less effective when firing at enemy units in the flank or rear-facing arcs. The color of the crosshair indicates the effectiveness of the fire:

FIRE CURSOR COLOR	WEAPONS EFFECTIVENESS
Red	81% - 100%
Orange	61% - 80%
Yellow	41% - 60%
Yellow Green	21% - 40%
Green	1% - 20%

Reaction fire is actually divided into four, quarter-turn "volleys." When a unit is ordered to fire by left-clicking on an enemy unit, the unit fires all remaining volleys at the enemy unit thus expending its remaining movement.

Fire Strength

The fire strength that a unit can direct at any particular target is dependent on the unit's formation, facing, troop strength, weapons, troop capability, range to target, environmental conditions, and available frontage. AGE OF RIFLES calculations but there are several things that can be done to maximize a unit's fire strength:

- Assume a Line or Supported Line formation
- Dismount or unlimber units
- Recall skirmishers

There are also several ways to minimize a unit's exposure to enemy fire:

- Dismount or unlimber units
- Deploy skirmishers if possible. While this has no effect on enemy artillery fire, it significantly improves a unit's resistance to small arms fire
- Enter a defensive posture by assuming Disordered or Defensive Order formation in town, redoubt, or trench hex

Units are most effective when firing at enemy units which:

- Are mounted
- Are nearby
- Are in March or Attack Column
- Are in Square formation
- Do not have skirmishers deployed (except for artillery, which is unaffected by skirmishers)

Automatic Fire (Rules Option)

Units with automatic fire reaction orders and any remaining units automatically fire their weapons at any moving or firing unit within specified reaction range or the weapons' maximum range. Automatic reaction orders are best used to defend a position.

When a unit fires automatically, it only fires one volley. In the case of a unit that can fire at as many as four different units. Additionally, a unit may fire an unlimited number of times in one turn (until it runs out of ammunition). While frantic fire does count against a unit's volley limit. While a unit fires, it has a chance equal to the percentage of ammunition. If all weapons fire for the entire turn, the ammunition is depleted. For more information see the "Ammunition" section below.

Units in Square, Defensive, or Disordered formation are less effective when firing at enemy units in the flank or rear-facing arcs.

There is a small chance, depending upon unit capability, that units may accidentally fire at nearby friendly units during the day, but can occur in twilight or (especially) at night.

Frantic Fire (Rules Option)

Units equipped with some kinds of weapons, including automatic weapons, may automatically fire at enemy units under certain circumstances, a so-called "frantic fire." If an enemy unit moves into an adjacent hex to a unit by fire combat, and that unit passes a capability check, it may fire at the enemy. (Exception, mounted units and units that do not fire unless they fail a capability check.) If the unit is turned off, units never engage in frantic fire.

Ammunition Supply (Rules Option)

Units can only carry a limited amount of ammunition. The level is shown on the unit Detailed Report window after the battle. An ammunition point represents an amount of ammunition in the unit for a full turn at standard combat. Only men only carry enough ammunition to fire for one or two volleys. The number of weapons fired depends upon the number of weapons brought to bear, in many cases only a fraction of a unit's weapons. The chance that the unit's ammunition is depleted is the number of weapons actually firing, expressed as a percentage.

sordered, or Defensive formation it is less effective when firing at flank or rear-facing arcs. The color of the crosshair indicates the fire:

WEAPONS EFFECTIVENESS

81% - 100%
61% - 80%
41% - 60%
21% - 40%
1% - 20%

actually divided into four, quarter-turn "volleys." When a unit is selected by left-clicking on an enemy unit, the unit fires all remaining movement points thus expending its remaining movement.

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, which is unaffected by skirmishers)

Automatic Fire (Rules Option)

Units equipped with automatic fire reaction orders and any remaining movement points, will automatically fire their weapons at any moving or firing enemy units within the specified reaction range or the weapons' maximum range, whichever is less. Automatic reaction orders are best used to defend a position, rather than to attack.

When a unit fires automatically, it only fires one volley. In theory, a unit could automatically fire at as many as four different units. Additionally, frantic fire is not subject to the volley limit. While frantic fire does count against the limit, a unit can fire an unlimited number of times in one turn (until it runs out of ammunition). Whenever a unit fires, it has a chance equal to the percentage of the unit firing to use up a point of ammunition. If all weapons fire for the entire turn, there is a 100% chance that the ammunition is depleted. For more information see the "Ammunition Supply" section below.

Except when in Square, Defensive, or Disordered formation, units may not fire into their flank or rear-facing arcs.

There is a small chance, depending upon unit capability and visibility conditions, that the units may accidentally fire at nearby friendly units. This can't happen during the day, but can occur in twilight or (especially) at night.

Frantic Fire (Rules Option)

Units equipped with some kinds of weapons, including all small arms, also automatically fire at enemy units under certain circumstances regardless of orders. This is called "frantic fire." If an enemy unit moves into an adjacent hex or causes losses to a unit by fire combat, and that unit passes a capability check, it is likely to frantically fire at the enemy. (Exception, mounted units and units with hold fire orders do not frantically fire unless they fail a capability check.) If the Allow Frantic Fire option is turned off, units never engage in frantic fire.

Ammunition Supply (Rules Option)

Units can only carry a limited amount of ammunition. Each unit's ammunition level is shown on the unit Detailed Report window after the weapons listing. Each ammunition point represents an amount of ammunition sufficient to fire all weapons in the unit for a full turn at standard combat rates of fire. Most infantrymen only carry enough ammunition to fire for one or two turns. Since the number of weapons fired depends upon the number of weapons which can actually be brought to bear, in many cases only a fraction of a unit's weapons fire. If this happens, the chance that the unit's ammunition is depleted by a point is equal to the number of weapons actually firing, expressed as a percentage of the unit's total

complement. Additionally, the chance of depletion is lowered if the unit has fewer than four volleys. If all weapons fire for the entire round, there is a 100% chance that the ammunition is depleted.

There is a chance for ammunition resupply at the end of each round. See the "Resupply" section on page 37 for more information.

Ways to avoid running low on ammunition:

- Artillery units generally carry enough ammunition to avoid running low.
- Infantry units not in defensive posture should deploy skirmishers if possible. This limits the number of weapons firing, as well as lowering the exposure of the unit to enemy fire.
- Be careful about giving units automatic reaction fire orders. Units with these orders are not always selective in their use of ammunition.

Melee Combat

Under certain circumstances units can be ordered to assault enemy lines and engage them in hand-to-hand (melee) combat. The defender uses its fire strength in the first round of melee, but after the first round, firepower is of limited importance. In this kind of fighting, a swordsman is as valuable as a rifleman. Losses, especially stragglers, tend to be very high in a melee combat.

Units must be adjacent to the enemy, and must have sufficient movement allowance to enter the enemy hex in order to initiate melee combat. To order an assault, a unit must be moved into an adjacent enemy unit's hex. To do this, drag the unit in Standard mode, or left-click in Alternate mouse mode.

The number of attacking units participating in the assault depends on the current orders scope. If formation orders have been selected, all adjacent units of the same command join in the attack. Units stacked together will join to assault if the Order by Stack option is set. Otherwise, only the currently selected unit attacks.

Melee proceeds in rounds. Any given melee can last a maximum of ten rounds, although most end much sooner. At the beginning of each round, the defending units must pass a capability check. If they fail, they retreat from combat and the attackers are allowed to advance into the hex. If the defenders pass their capability check, the attackers must then pass a capability check of their own. Should the attackers fail their check, the assault is repulsed, leaving the defenders in possession of the hex. If both sides pass their capability checks, a round of melee combat occurs.

The total melee strengths of both sides' units are added up and adjusted by a random factor. On the first round only, the defending force uses its fire strength to its melee strength. If the defender is in a defensive formation, the attacker's melee

strength is doubled. Then losses are applied to both sides' units. The unit taking part in a melee the strongest unit on each side. If losses are very high, however, weaker units are also lost. Units suffering losses have their morale and formation reduced to the beginning of the next round.

At the end of each round of melee, all surviving units on both sides are reorganized. As an exception, victorious defender units in Order formation retain their order. If the defender is victorious, possibly leaving weapons behind to be captured. If the attacker loses (the assault is repulsed) both sides return to their original positions. The victorious units' morale is reduced, often resulting in the loss of formation.

Units with automatic reaction move orders, it attempts to move enemy units moving or firing within the distance of the "Reaction Orders" section on page 14 for a table of the

Melee Strength

As with fire strength, a unit's melee strength is dependent on its facing, troop strength, weapons, troop capability and formation. The game calculates this, but there are several things that can increase a unit's strength:

- Mount them (if they have any spears, swords, sabers, or pikes)
- Unlimber artillery units
- Assume Attack Column or Square formation
- Engage enemy troops from their flank or rear

Note that most of these options also increase a unit's vulnerability.

Prize Crews

A victorious attacker may have the option of capturing retreating defenders. If the attacker decides to capture a unit, it detaches a skeleton, prize crew to man the guns. The prize crew is able to fire the captured weapons, but it may begin to lose stragglers accumulate to form a new unit. If a unit of size of artillery moves into the hex with the prize unit, the prize crew are assimilated into the moving unit. Otherwise the prize crew can be used to recover artillery abandoned by friendly units. The prize crew can be used to recover artillery abandoned by friendly units. The prize crew can be used to recover artillery abandoned by friendly units. The prize crew can be used to recover artillery abandoned by friendly units.

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nstances units can be ordered to assault enemy formations in hand-to-hand (melee) combat. The defender uses its fire strength to resist, but after the first round, firepower is of limited importance. A swordsman is as valuable as a rifleman. Losses, especially, are very high in a melee combat.

to the enemy, and must have sufficient movement allowance to order to initiate melee combat. To order an assault, a unit must move into the enemy unit's hex. To do this, drag the unit in Standard mode to the mouse mode.

ng units participating in the assault depends on the current reaction orders have been selected, all adjacent units of the same type will join the assault. Units stacked together will join to assault if the Order is selected. Otherwise, only the currently selected unit attacks.

nds. Any given melee can last a maximum of ten rounds. The sooner the defender retreats, the better. At the beginning of each round, the defending unit must pass a capability check. If they fail, they retreat from combat and must not advance into the hex. If the defenders pass their capability check, they must then pass a capability check of their own. Should the defender fail, the assault is repulsed, leaving the defenders in position. If both sides pass their capability checks, a round of melee combat occurs.

s of both sides' units are added up and adjusted by a range factor. At the end of each round only, the defending force uses its fire strength to its advantage. If the defender is in a defensive formation, the attacker's melee

strength is reduced. Then losses are applied to both sides' units. When more than one unit is participating in a melee the strongest unit on each side absorbs most of the losses. If losses are very high, however, weaker units may take considerable losses as well. Units suffering losses have their morale and vitality lowered. Melee combat ends at the beginning of the next round.

At the end of a round of melee, all surviving units on both sides may become wind-blown and disorganized. As an exception, victorious defending units in Square or Column Order formation retain their order. If the defender loses, his units retreat from the hex, possibly leaving weapons behind to be captured by the victorious attacker. If the attacker loses (the assault is repulsed) both sides' surviving units remain at their original positions. The victorious units' morale is improved, and the defeated units' morale is reduced, often resulting in the loss of one or more levels of capability.

Units with automatic reaction move orders, it attempts to move toward and assist enemy units moving or firing within the distance specified by the order. See the "Reaction Orders" section on page 14 for a table of these ranges.

Melee Strength

As with fire strength, a unit's melee strength is dependent upon the unit's formation, facing, troop strength, weapons, troop capability and available frontage. AGE calculates this, but there are several things that can maximize the melee strength of units:

- Mount them (if they have any spears, swords, sabers, or lances)
- Unlimber artillery units
- Assume Attack Column or Square formation
- Engage enemy troops from their flank or rear

Note that most of these options also increase a unit's vulnerability to fire.

Prize Crews

A victorious attacker may have the option of capturing enemy guns left behind by retreating defenders. If the attacker decides to capture the guns, the strongest unit detaches a skeleton, prize crew to man the guns. The prize crew is not immediately able to fire the captured weapons, but it may begin to fire the guns as artillery crew stragglers accumulate to form a new unit. If a unit equipped with the same size of artillery moves into the hex with the prize unit, the weapons and prize crew are assimilated into the moving unit. Otherwise the prize crew remains in disordered formation and moves the capture guns by prolonge, one hex per turn. This can be used to recover artillery abandoned by friendly gunners. Just move the original gun crew back into the hex with the prize crew to pick up any guns recovered from the enemy.

Casualties

Whenever a unit moves or is involved in combat there is a chance that some of its troops will be lost. These lost troops are divided into permanent losses and stragglers.

Permanent losses are troops who are incapacitated for the following reasons:

- Taken prisoner
- Serious injuries
- Killed

Stragglers are unattached troops who are wandering about the battlefield for the following reasons:

- Small groups of troops which become separated from their unit due to poor visibility while moving or exhaustion from the unit being winded
- Troops detached as message carriers
- Individual soldiers who flee from danger
- Minor injuries
- Simple malingering

High capability units are less likely to lose troops to straggling than low capability units. Straggling is more common in twilight and at night, and when a unit moves through woods, brush, village or town hexes — particularly if the unit is in Disordered formation. A percentage of all fire combat and melee losses become stragglers. Troops straggling from units which were surrounded by enemy forces or from recently eliminated units adjacent to enemy forces, are taken prisoner and become permanent losses. If the Combat Report indicates that prisoners have been taken in a situation where it seems unlikely that this would happen, it is because some stragglers are presumed to become disoriented and wander toward enemy lines.

The current number of stragglers can be seen in the scenario report. As time goes by, some of these troops automatically rejoin friendly units. Permanent losses can never be recovered. If the Allow Straggler Recovery option is turned off, all stragglers are treated as permanent losses.

Unit Capability

The capability of a unit is checked frequently during the game. Capability is a general indicator of the performance of a unit, and is based on the unit's training, experience, morale, and vitality compared with the national average. The unit's capability rating is used when a unit is forced to make a capability check. Unit capability is displayed at the bottom center of the Unit Information panel as a "capability light."

The color of the light can range from dark green to red, and indicates the unit's status. Moving the mouse pointer over the capability light will cause a statement to appear in the Information bar.

Training represents the unit's general level of military education and its contribution to the unit's overall capability. It determines the unit can assume.

Experience is a relative measure of a unit's previous exposure to combat. Moving from one scenario to another in a campaign will give a unit a percentage of casualties suffered in the previous scenario.

Morale represents the level of motivation of the soldiers assigned to the unit. It goes up or down depending upon combat results and is as much as any other factor when considering a unit's capability.

Each unit has a vitality rating. Fresh units have an excellent vitality and are essentially asleep on their feet. Units with low vitality have reduced movement rates. Whenever a unit moves, it suffers some loss of vitality which is usually recovered at night. Vitality losses are greater at night. Forced march movements cause a unit to become winded, an effect which inhibits movement. Winded units using the Disordered formation recover vitality more quickly.

Units' training and supply ratings are fixed from the beginning of the game. The overall capability of your units can be maximized by maintaining high training and supply ratings, particularly at night.

Retreat, Rout, and Panic

Any time a unit suffers losses due to combat, it must make a capability check. A unit's capability can be modified by its formation and the presence of a leader.

Units failing a capability check must make a second check. If they fail the second check, the retreat becomes a rout. Routed units may attempt to reform when retreating, and if they remain routed, attempt to reform. Routed units which fail a third capability check may panic. A panicked unit, with all of their assigned troops becoming casualties.

If a unit is required to retreat, but cannot comply, it panics. Units that remain in place, but they become winded, suffer dramatic drops in vitality, and are considered to have routed. Units in Disordered formation are susceptible to retreats and routs.

unit moves or is involved in combat there is a chance that troops will be lost. These lost troops are divided into permanent losses and stragglers. Permanent losses are troops who are incapacitated for the following scenario.

Stragglers are troops who are wandering about the battlefield, detached from their unit. Stragglers can be seen in the scenario report. As time goes on, stragglers automatically rejoin friendly units. Permanent losses are troops which become separated from their unit due to capture, death, or exhaustion from the unit being wounded.

Stragglers can be used as message carriers. Stragglers who flee from danger are considered stragglers.

Units are less likely to lose troops to straggling than low capability units. Straggling is more common in twilight and at night, and when a unit moves through brush, village or town hexes — particularly if the unit is engaged in combat. A percentage of all fire combat and melee losses become stragglers from units which were surrounded by enemy forces. Units adjacent to enemy forces, are taken prisoner instead of becoming stragglers. If the Combat Report indicates that prisoners are taken, stragglers are presumed to become disoriented and wander toward the enemy.

Stragglers can be seen in the scenario report. As time goes on, stragglers automatically rejoin friendly units. Permanent losses are troops which become separated from their unit due to capture, death, or exhaustion from the unit being wounded.

Unit capability is checked frequently during the game. Capability is a general measure of the performance of a unit, and is based on the unit's training and vitality compared with the national average. The unit's capability is checked when a unit is forced to make a capability check. Unit capability is shown in the center of the Unit Information panel as a "capability light".

The capability light can range from dark green to red, and indicates the general condition of the unit. Moving the mouse pointer over the capability light will cause a tooltip to appear in the Information bar.

Training represents the unit's general level of military education and practice. In addition to its contribution to the unit's overall capability, this ability determines the formations the unit can assume.

Experience is a relative measure of a unit's previous exposure to battle. Units that move from one scenario to another in a campaign will gain experience factored against the percentage of casualties suffered in the previous scenario.

Morale represents the level of motivation of the soldiers assigned to the unit. This figure can go up or down depending upon combat results and rest. Morale counts for as much as any other factor when considering a unit's capability.

Each unit has a vitality rating. Fresh units have an excellent vitality, troops with a low vitality are essentially asleep on their feet. Units with a vitality of fair or less have reduced movement rates. Whenever a unit moves or engages in combat, it suffers some loss of vitality which is usually recovered at the beginning of each turn. Vitality losses are greater at night. Forced march movement and melee combat cause a unit to become winded, an effect which inhibits rest for one full turn. Winded units using the Disordered formation recover vitality more quickly.

Units' training and supply ratings are fixed from the beginning of the scenario, but the overall capability of your units can be maximized by avoiding unnecessary movement, particularly at night.

Retreat, Rout, and Panic

Any time a unit suffers losses due to combat, it must pass a capability check or retreat. A unit's capability can be modified by its formation and by the presence of a leader.

Units failing a capability check must make a second check. If a unit fails the second check, the retreat becomes a rout. Routed units may drop some of their weapons when retreating, and if they remain routed, attempt to retire from the battlefield. Routed units which fail a third capability check may partially or completely disband, with all of their assigned troops becoming casualties, stragglers, or prisoners.

If a unit is required to retreat, but cannot comply, it panics instead. Panicked units remain in place, but they become winded, suffer dramatic losses in morale and vitality, and are considered to have routed. Units in Defensive Order are less susceptible to retreats and routs.

Communications Traces

Communications traces are required whenever a unit checks for resupply from command leaders, and whenever a leader reassignment is made. A unit is in communication if it can trace a path of hexes free of water, mountains, escarpments, and not adjacent to enemy units (unless occupied by friendly units). If the trace fails, the unit is not in communication with the supply point.

Leader Capability

A leader's capability is based on three characteristics: charisma, bravery, and competence. Left-click on the leader button in the Others in Hex panel (if present) to view the characteristics of the leader or to reassign the leader to another unit.

If a leader is attached to a unit, that unit's capability is averaged with the leader's capability for all game checks. Like most unit characteristics, leaders' charisma, bravery, and competence are fixed at the beginning of the scenario.

Incapacitated Leaders

Unfortunately, leaders are not supermen. They can be incapacitated by enemy action or friendly fire. Whenever a unit takes any losses there is a chance, based on the severity of the losses, that any attached leader may become a casualty. If this happens, a "brevet leader" is promoted from the ranks. Brevet leaders' characteristics are randomly determined, based on the standard national characteristics of the unit of assignment. If the affected leader is the overall formation leader, all remaining leaders are promoted to the next highest position in the formation, with the lowest remaining with their unit of assignment. It is not possible for a brevet leader to become the overall formation leader unless all original leaders in the formation have been replaced.

Smoke and Fire

Whenever a weapon with a "battering" factor (most artillery) shoots into a hex with flammable terrain, there is a chance that a fire breaks out. This chance is proportional to the point blank battering strength of the firing unit, and the type of flammable terrain.

Woods, brush, town, village, and tall field hexes are flammable. If the arid tileset is in use, woods, brush, and tall field hexes are particularly flammable. A hex can only burn once. Once a fire goes out the terrain in the hex is no longer considered flammable.

At the beginning of each turn, fires can spread to adjacent, flammable, and downwind hexes. This is more likely with stronger winds. If there is no wind, fires tend to spread radially.

Smoke usually represents an area of several acres, depending on the terrain. The entire area is unlikely to be affected by a fire. Units can remain in fire hexes, but they pay a penalty. Units assume Disordered formation. Artillery units lose up to 50% of their ammunition. Resupply is more likely for any unit in a fire hex if the fire burns out or the unit moves from the hex. If winds are not strong, smoke rises from any fires. If winds are strong, smoke is blown in the direction of the wind.

Periodic Checks

Periodic checks are performed at the beginning of each turn.

Units that are non-winded unit rests, recovering some vitality at the beginning of the turn. Units in Defensive Order, Disordered units, and units in Defensive Order, units that are non-winded units have rested status, allowing them to rest on later turns. Units which were "under fire" during the previous turn recover some vitality taken from ranged fire.

Reinforcements

Any off-map commands which have reached their entry point are reinforcements at this time. Since there is a possibility that reinforcements will appear earlier or later than their expected entry time, the information bar at the beginning of the turn that they are expected to arrive also displays the expected arrival time of any reinforcements.

Units may only enter the map if there is room for them. A unit uses an adjacent hex. Units must enter on a hex that is not part of their scheduled entry hex. This puts a practical limit on how many units can enter near a given entry hex on any given turn.

If for any reason the units cannot enter the map, they remain on the map until the scenario ends.

Open the Info menu and select the Commands item to view a list of currently deployed on the map and which are waiting off-map.

Traces

Traces are required whenever a unit checks for communication, and whenever a leader reassignment is made. A unit can trace a path of hexes free of water, and not adjacent to enemy units (unless occupied by the unit). The unit is not in communication with the supply point if the unit is not in communication with the supply point.

Ability

Ability is based on three characteristics: charisma, bravery, and leadership. The leader button in the Others in Hex panel (if present) shows the leader or to reassign the leader to another unit.

When a unit is attached to a unit, that unit's capability is averaged with the unit's own. Like most unit characteristics, leaders' capabilities are fixed at the beginning of the scenario.

Leaders

Leaders are not supermen. They can be incapacitated by fire. Whenever a unit takes any losses there is a chance that the leader, that any attached leader may become a casualty. If the leader is promoted from the ranks. Brevet leaders' charisma is determined, based on the standard national characteristics. If the affected leader is the overall formation leader, all units are promoted to the next highest position in the formation. It is not possible for a brevet leader to become a formation leader unless all original leaders in the formation are killed.

A unit with a "battering" factor (most artillery) shoots into a hex. There is a chance that a fire breaks out. This chance is proportional to the battering strength of the firing unit, and the type of terrain.

Low hills, villages, and tall field hexes are flammable. If the arid tiles are flammable, and tall field hexes are particularly flammable. A hex can catch fire if a fire goes out the terrain in the hex is no longer considered flammable.

Each turn, fires can spread to adjacent, flammable, and downwind hexes. Fires are more likely with stronger winds. If there is no wind, fires tend to spread in all directions.

A fire hex actually represents an area of several acres, depending upon the game scenario. The entire area is unlikely to be affected by a fire at any given time. This means that units can remain in fire hexes, but they pay certain penalties: Non-artillery units assume Disordered formation. Artillery units are subject to caisson breakdown, losing up to 50% of their ammunition. Resupply and rest are not possible while in a fire hex. These effects remain in place until the fire burns out or the unit moves from the hex.

Winds are not strong, smoke rises from any fires. If winds are light, smoke drifts in the direction of the wind.

Casualty Checks

Casualty checks are performed at the beginning of each turn:

Rest

Non-winded unit rests, recovering some vitality at the beginning of each turn. Winded units, and units in Defensive Order, recover more rapidly, particularly at night. After all non-winded units have rested, wounded units recover their status, allowing them to rest on later turns.

Units which were "under fire" during the previous turn "take cover," reducing the casualties taken from ranged fire.

Reinforcements

Any off-map commands which have reached their entry turn can enter the map as reinforcements at this time. Since there is a possibility that reinforcements can appear earlier or later than their expected entry turn, a notice appears in the information bar at the beginning of the turn that they arrive. The Commands menu option also displays the expected arrival time of any off-map commands.

Units may only enter the map if there is room for them. If their entry hex is filled, the unit uses an adjacent hex. Units must enter on a map edge within three hexes of their scheduled entry hex. This puts a practical limit of 14 units that can enter near a given entry hex on any given turn.

If for any reason the units cannot enter the map, the program keeps trying to enter them on each turn until the scenario ends.

Open the Info menu and select the Commands item to see which commands are currently deployed on the map and which are waiting off map as reinforcements.

Chain of Command

Each unit in the game is assigned to a higher level command. If the **Effect** option is active, each command has one or more leaders assigned. Units are penalized if the units of a formation are spread so widely that they are outside the leaders' influence.

Command and Control (Rules Option)

Each unit is checked for isolation. If a unit is outside the command area, has no leader assigned to its command, or cannot trace a communication path to its leader, it has a 90% chance that it becomes isolated. Isolated units are limited to one turn of inactivity before they are removed from the command until they restore communication with their leader.

The command radius of a leader is five hexes for the overall formation leader and three hexes for subordinate leaders. The radius is cut in half, and rounded down, when checking communications paths to units in woods, brush, towns, smoke, or fire hexes.

It is also possible for entire commands to be unavailable for orders due to reorganization. If a command loses its leader, it becomes shaded over while it reorganizes. The chance for this is inversely proportional to the overall capability of the formation. Low capability formations (poor morale, training, or leaders) and those heavily deployed in woods and brush hexes are less likely to be available for orders. All formations are less likely to be available for orders during twilight or at night. High capability formations and those heavily deployed near roads are more likely to be available for orders. All of these effects are cumulative.

Inactive or reserve formations are never available for orders and are indicated by being shaded over on the map. Reserve commands which have reached their activation turn become available immediately. Reserves which have been triggered by enemy action are available for orders during the turn following the one in which they were first attacked.

Static Units

At the beginning of each scenario, all units are considered to be “static.” A static unit is in direct physical communication with its chain of command. Its location is known precisely. This makes it easier for the unit to rest and be resupplied on the battlefield. When a unit moves, it loses its static status. On any turn in which a unit does not move or fire, there is a 10% chance that the unit’s static status is restored, facilitating supply and restoration of control.

Resupply (Rules Option)

Units engaging in frequent fire combat may run out of ammunition during a scenario. In some cases, they may receive new supplies of ammunition if they are in communication with their command's leader.

...may have up to three supply sources on the map. These are on the edge of the map. In order to be resupplied, a command must be able to trace a line of hexes free of enemy units. The line can trace to a supply point through a leader unit. The raw chance for resupply is equal to the number of supply sources. Disrupted commands have their ammunition levels reduced by 50%.

Units which are static, located near roads, in woods or brush have an increased chance of resupply. Resupply is not possible in burning hexes. All of the units can never be resupplied.

There is always in supply if it is within seven hexes of the command radius of a leader, there are no enemy units moved or engaged in combat that turn.

supply points that are not on a map edge represent a location. A supply point that has been occupied by an enemy friendly supply until it is retaken by a friendly unit never change allegiance, because they represent a point off map. They are unable to provide supplies when

Recovery of Stragglers

Half of all friendly stragglers are available to rejoin friendly units. Units are likely to receive replacements from the straggler pool if they are not resupplied in the current turn. Half of all such units are replaced with whatever small arms the receiving unit carries.

Mounted Unit Rally and Retreat

Each routed unit may rally. The chance for this is based on the unit's rally capability. Isolated units are unlikely to rally. Remember that units can rally to a leader with the capability of any attached leader, so to improve a unit's rally capability leader to the unit.

Routed units which fail to rally attempt to move a enemy units. If no enemy units are visible, they move to the nearest supply point.

Any unit which can see a friendly unit rout must
Failure to pass results in the observing unit becoming

Command

A command is assigned to a higher level command. If a unit is not assigned to a command, each command has one or more leaders assigned to it. The units of a formation are spread so widely that they are not

Control (Rules Option)

Control is required for isolation. If a unit is outside the command's control radius, it is isolated. If a unit is outside its command, or cannot trace a communication path to its leader, it becomes isolated. Isolated units are limited to one action per turn and cannot communicate with their leader.

The control radius of a leader is five hexes for the overall formation leader and three hexes for subordinate leaders. The radius is cut in half, and rounded down, if the unit is in woods, brush, or a similar terrain.

Units are never available for orders due to being isolated. If a unit loses its leader, it becomes shaded over while it reorganizes. The chance of reorganization is proportional to the overall capability of the formation (poor morale, training, or leaders) and those heavily depleted units are less likely to be available for orders. All formations are unavailable for orders during twilight or at night. High capability formations deployed near roads are more likely to be available for orders. The chance of being available is cumulative.

Units are never available for orders and are indicated by a shaded hex on the map. Reserve commands which have reached their limit are unavailable immediately. Reserves which have been triggered are available for orders during the turn following the one in which they were triggered.

In a scenario, all units are considered to be "static." A unit's location makes it easier for the unit to rest and be resupplied on the map. If a unit moves, it loses its static status. On any turn in which a unit moves, there is a 10% chance that the unit's static status is restored. If a unit is restored, its status is restored to control.

In a scenario, fire combat may run out of ammunition during a scenario. Units may receive new supplies of ammunition if they are in contact with their command's leader.

Units may have up to three supply sources on the map in a scenario. In most scenarios, units are on the edge of the map. In order to be resupplied, the command's leader must be able to trace a line of hexes free of enemy units to a supply point. Units which can trace to a supply point through a leader are supplied if they pass a capability check. The raw chance for resupply is equal to the command's supply rating. Resupplied commands have their ammunition levels restored to the maximum for their weapon type.

Units which are isolated or located in woods or brush hexes are less likely to be in contact with their leader. Units which are static, located near roads, in a defensive posture, or a unit has an increased chance of resupply. Resupply is more difficult in twilight or at night, and impossible in burning hexes. All of these effects are cumulative. Units can never be resupplied.

A unit is always in supply if it is within seven hexes of a friendly supply point, in the control radius of a leader, there are no enemy units adjacent, and has neither moved nor engaged in combat that turn.

Supply points that are not on a map edge represent accumulations of food and ammunition. A supply point that has been occupied by enemy forces ceases to provide friendly supply until it is retaken by a friendly unit. Supply points on a map edge never change allegiance, because they represent channels of supply coming from off map. They are unable to provide supplies when occupied or interdicted.

Recovery of Stragglers

Half of all friendly stragglers are available to rejoin friendly units. Units are more likely to receive replacements from the straggler pool at night and if they have received resupply in the current turn. Half of all such replacements are armed with whatever small arms the receiving unit carries.

Routed Unit Rally and Retreat

Each routed unit may rally. The chance for this is based on the unit's capability. Isolated units are unlikely to rally. Remember that unit capability is modified by the capability of any attached leader, so to improve a unit's chance to rally, attach a high capability leader to the unit.

Routed units which fail to rally attempt to move away from the nearest visible enemy units. If no enemy units are visible, they move toward the nearest friendly supply point.

Any unit which can see a friendly unit rout must itself pass a capability check. Failure to pass results in the observing unit becoming routed.

Intelligence Gathering (Rules Option)

Each unit on the map can see enemy forces within a certain distance. The area that can be seen by a unit is called its "field of view." When a unit checks its field of view, it looks in all directions to a distance determined by environmental factors and the unit's movement status and equipment. Generally speaking, units can see farther in daylight and clear weather than they can at night or in rainy weather. Units can also see farther if they are not moving.

Anything outside the field of view radius of a unit cannot be seen by that unit. Terrain between the unit and a hex can block the unit's field of view. Hills, forests, units, towns, woods, and smoke block a unit's vision. At the beginning of each turn, all units check their fields of view to locate nearby enemy units. Fields of view are also checked during movement.

Hidden Units

Small, dispersed units may begin the game hidden from enemy view. If a unit is hidden, the word "hidden" appears in the Active Unit panel. Regardless of automatic reaction orders given them, hidden units cannot fire at or be seen by units more than one hex away. Units meeting the following criteria begin the scenario hidden.

- Total troop strength must be no more than 100 (small scale), 200 (medium scale), or 400 (large scale).
- The unit must be in a town, village, woods, brush, tall field, or walled compound hex.
- There must be no other unit in the hex.
- The unit must be Disordered, in Defensive Order, or skirmishing.

Hidden status is fragile. The following actions can cause units to lose their hidden status.

- The unit moves, fires, or changes formation.
- Any unit enters the hex containing the hidden unit.
- Any enemy unit moves to a hex adjacent to the hidden unit.

Scenarios

Victory Conditions

In a nutshell, AGE OF RIFLES is a very sophisticated version of the traditional "capture the flag" game. In order to win a side must control as many objective (flag) hexes as possible, while limiting friendly losses and inflicting maximum losses on the enemy.

Each scenario has its own specific victory conditions based on the number of objective hexes. Check the overview map to become familiar with the locations of all objective hexes on the first game turn.

Three types of victory points are awarded:

Controlled objectives: Objectives are shown in the map which indicate who controls a particular hex. Each hex has a value which is awarded to the controlling player. A hex with a special characteristic. If the word "EXIT" appears on a hex, it can be advanced off the map edge within two hexes to earn additional victory points. Each advanced unit is worth one additional victory point.

Casualties: The difference between the starting value and the current value. Casualty points are scaled to reflect differences in unit strengths. The initially weaker player gets more points for losses than the stronger player.

There are three levels of victory: Debatable, Notable, and Decisive. A victory is almost indistinguishable from a draw. If losses are almost equal, the result is instead reported as a "Pyrrhic" victory.

End of Scenario

A scenario ends when one of the following conditions is met:

- All units on one side have been destroyed. If this happens, the scenario is controlled by the surviving force.
- All commands on both sides are unavailable for orders. If this happens, AGE OF RIFLES signifies that both sides have a shortage of effective combatants.
- The final turn of the scenario has been completed. If the scenario is not decided and the scenario continued past the final turn, the victory conditions are no longer valid. **Note:** If using the Victory Point option, scenarios, like the battles they represent, do not have a fixed number of turns listed. The final turn is determined by the number of turns listed or later than listed.
- A player has requested an end to the scenario.

ering (Rules Option)

ap can see enemy forces within a certain distance. This unit is called its "field of view." When a unit chooses directions to a distance determined by environmental movement status and equipment. Generally speaking, units see better in clear weather than they can at night or in rainy weather if they are not moving.

The field of view radius of a unit cannot be seen by the unit and a hex can block the unit's field of view. Fog, smoke, and smoke block a unit's vision. At the beginning of their fields of view to locate nearby enemy units. Movement.

ts may begin the game hidden from enemy view. If "Hidden" appears in the Active Unit panel. Regardless of the given them, hidden units cannot fire at or be seen by another hex away. Units meeting the following criteria begin the

must be no more than 100 (small scale),
or 400 (large scale).

a town, village, woods, brush, tall field,
hex.

her unit in the hex.

ordered, in Defensive Order, or skirmishing.

ile. The following actions can cause units to lose the

or changes formation.

ex containing the hidden unit.

s to a hex adjacent to the hidden unit.

LES is a very sophisticated version of the traditional "can-
order to win a side must control as many objective (flag)
limiting friendly losses and inflicting maximum losses on

scenario has its own specific victory conditions based on the location, number, and values of objective hexes. Check the overview map and scroll around the map window to become familiar with the locations of all objective hexes before the first game turn.

Types of victory points are awarded:

Controlled objectives: Objectives are shown in the map window as national flags which indicate who controls a particular hex. Each objective has a victory point value which is awarded to the controlling player. Objectives on map edges have a special characteristic. If the word "EXIT" appears in the objective hex, units can be advanced off the map edge within two hexes of the objective for additional victory points. Each advanced unit is worth a portion of its value in additional victory points.

Casualties: The difference between the starting value of all enemy units and the current value. Casualty points are scaled to reflect disparities in original force strengths. The initially weaker player gets more points for inflicting enemy losses than the stronger player.

There are three levels of victory: Debatable, Notable, and Brilliant. A Debatable victory is almost indistinguishable from a draw. If losses are high, a Debatable victory is instead reported as a "Pyrrhic" victory.

End of Scenario

A scenario ends when one of the following conditions has been met:

- All units on one side have been destroyed. If this happens, all objectives become controlled by the surviving force.
- All commands on both sides are unavailable for orders due to loss of command control. If this happens, AGE OF RIFLES signifies that both sides must disengage due to a shortage of effective combatants.
- The final turn of the scenario has been completed. This condition can be overridden and the scenario continued past the final turn, although scenario victory conditions are no longer valid. **Note:** If using the Variable Scenario Length rules option, scenarios, like the battles they represent, do not always end in exactly the number of turns listed. The final turn is determined randomly and may occur earlier or later than listed.
- A player has requested an end to the scenario.

■ SCENARIO EDITOR



The Scenario Editor is designed to assist in creating custom battles for *Rifles*. Use the Scenario Editor to personally design or randomly generate maps, build units from scratch, assign leaders, and establish objectives. In short, the Scenario Editor allows complete control over the scenario creation process. The Scenario Editor is a very powerful tool that may be intimidating at first, but practice should quickly increase ease of use.

The scenario creation process consists of several steps. The first two can occur in any order, but both must be done before step 3:

1. Create a map with the Map Editor.
2. Create an Order of Battle (OOB) for both sides consisting of units, commands, and leaders with the Unit Editor.
3. Deploy the units and establish objectives with the Deployment Editor.
4. Issue orders.
5. Save the scenario.

During the process, the various parts of a scenario can all be saved as maps, orders of battle (OOBs), and finally the whole scenario. Only the complete scenario is playable, but saving the other pieces means that hard work need never be lost.

The editor begins with the Rifles Construction Options screen. Three buttons permit immediate access to the Load Scenario/Unit Deployment screen, the Unit Editor screen, or the Map Editor screen.

Map Editor

The map building tools consist of the terrain tile palette and drawing tool buttons at the bottom of the screen. Across the top is the familiar menu bar of File, Edit, and Info, although they have different functions than within the game. The name of any scenario which has been loaded or saved appears next to the menu selections. Along the right side are buttons which load and save. Using the different terrain tiles and button controls, new custom maps from 20x20 hexes up to 50x50 hexes. Depending on the map size, the range from 2,000 to 20,000 yards square!

Building a map hex by hex can be a slow process, so a random map generator is included to simplify this process, including a random map generator controls.

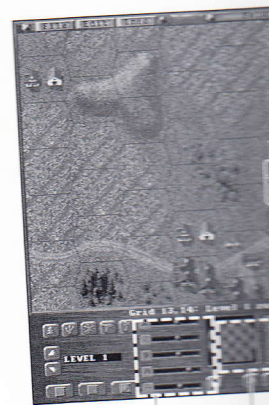
The Terrain Tile Management System

There are three large squares in the center of the screen. These three palette squares are a window into the Terrain Tile Management System. Three different sets of terrain tiles are displayed in the three palette squares. Arrow buttons on either end of the three palette squares. Left-clicking on a button loads the corresponding terrain tile set into the palette squares above the buttons, while a description bar at the bottom of the screen displays information about the selected tile. Left-clicking on the left-hand or right-hand arrow button moves one tile to the right or left, respectively.

Basic Tiles and Transparent Tiles

There are two primary types of tile, irrespective of the map size, Basic and Transparent.

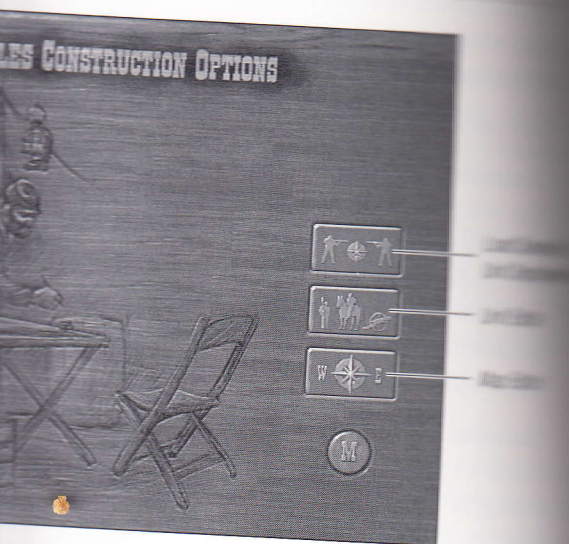
Basic tiles are all slope, escarpment, marsh, and water. They represent the nature of the actual surface by adding elevation and other terrain features. Basic tiles can only be replaced by other Basic tiles placed in any hex.



Random Map Settings

Tile Palette

R



designed to assist in creating custom battles for the Scenario Editor to personally design or randomly generate maps, assign leaders, and establish objectives. In short, it gives you complete control over the scenario creation process. The interface may be intimidating at first, but please don't let that ease of use.

The process consists of several steps. The first two can occur simultaneously and be done before step 3:

1. Map Editor.

2. Objectives (OOB) for both sides consisting of units, commands, and objectives.

3. Establish objectives with the Deployment Editor.

Various parts of a scenario can all be saved as maps, orders of battle, or the whole scenario. Only the complete scenario is playable, which means that hard work need never be lost.

The Rifles Construction Options screen. Three buttons permit you to access the Scenario/Unit Deployment screen, the Unit Editor screen.

Map Editor

The map building tools consist of the Terrain Tile palette and Drawing Tool buttons at the bottom of the screen. Across the top are the familiar menu buttons of File, Edit, and Info, although they have different functions than within the game. The name of any scenario which has been loaded or saved appears next to the menu selections. Along the right side are buttons which load and save. Using the different terrain tiles and button controls, new custom maps can be created in sizes from 20x20 hexes up to 50x50 hexes. Depending on the scale used, a map can range from 2,000 to 20,000 yards square!

Building a map hex by hex can be a slow process, so several options have been included to simplify this process, including a random map generator and automatic contouring controls.

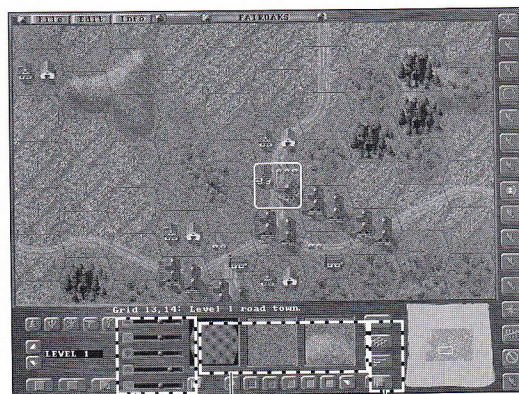
The Terrain Tile Management System

There are three large squares in the center of the area below the Map window. These three palette squares are a window into the Terrain Tile palette. Buttons representing different sets of terrain tiles are displayed in seven sets of five below the palette squares. Arrow buttons on either end of the five buttons cycle through the groups. Left-clicking on a button loads the corresponding set of tiles into the three palette squares above the buttons, while a description of the tile type appears in the Information bar. Left-clicking on the left-hand or right-hand squares shifts the palette one tile to the right or left, respectively.

Basic Tiles and Transparent Tiles

There are two primary types of tile, irrespective of the terrain they represent; Basic and Transparent.

Basic tiles are all slope, escarpment, marsh, and water tiles. These tiles change the nature of the actual surface by adding elevation, shorelines, rivers, or marshes. Basic tiles can only be replaced by other Basic tiles, and only one Basic tile can be placed in any hex.



Random Map Settings Tile Palette Squares Drawing Mode Buttons

The rest of the buttons allow the selection of Transparent tiles. When a tile is selected, the word "transparent" appears in the Information bar next to the tile's name. Transparent tiles can be laid over Basic tiles as well as other Transparent tiles to create more realistic terrain. Streams, roads, fences, woods, brush, railroads, redoubts, villages, and fields are examples of Transparent tiles.



Transparent tiles can be erased using the Transparent tile eraser, the last button in the bottom row (it looks like a large eraser). Selecting this button makes the eraser active. Left-clicking on a hex with more Transparent tiles in it causes the hex to revert to its Basic tile. The eraser can also change Basic tiles, to do this another Basic tile must replace the one already on the map.

Tilesets



AGE OF RIFLES scenarios can be set in one of four different terrain regions: temperate, savanna, arid, and frozen. Each one has a separate set of tiles reflecting a region of terrain. Clicking on any of these five buttons changes to the appropriate tileset.

Elevation Level Control

Up to five levels of elevation can be placed using slope or escarpment Basic tiles. This control changes the level of any slope or escarpment tile prior to placement. When placing elevation tiles, it is a good idea to have the elevation display window on (using the Elevation display button from the buttons down the right side of the screen) to avoid placing elevation tiles whose level is inconsistent with the surrounding terrain.

Map Reset Buttons



The clear button removes all Basic tiles from the map.



The new button removes all Basic and Transparent tiles from the map.



The erase button removes all Transparent tiles from the map.

Random Map Creation



The fastest way to create a new map for a scenario is to let the editor create a random one. The five sliders control the five qualities that make up a random map. They are roughness, roads, woods, habitation, and water. Moving a slider to the right increases the incidence of that particular type of feature. Left-clicking on the Random Map button causes the editor to generate a random map.

Drawing Mode

Buttons constitute the "drawing tools." Left-clicking on the buttons gives the options of drawing tools. The choices are:

Single Tile



This is the simplest, but most time consuming way to place a tile at a time.

Automatic Fill



Automatic fill is a fast way to place any one tile on the map. In order to use this tool, a type of terrain is selected. That hex changes to reflect the tile chosen. The fill process completes the fill process.

Terrain Blob



The Terrain Blob tool fills the hex selected with the tile appearing in the center. When using this tool, a type of terrain is chosen and the star changes to reflect the tile chosen. Left-clicking on any hex begins the fill process and fills the surrounding hexes with the tile.

Line Draw



The Line Draw tool facilitates drawing linear features between any hex and the next selected hex. This tool won't simplify creating complex figures such as a stream or road from one edge to another.

Text



The Text tool allows placement of text legends. When a hex is selected, a text bar appears in the hex. Pressing Enter places the legend in the hex. Selecting the legend to be edited or deleted; text cannot be erased after placement.

Pull Up Mode



Pull up mode "pulls" the selected hex up to the next level of elevation. A single hex more than once raises that hex to a higher level. Because of another tool called the Autofit, or Autocontour, ranges of hills can be made by left-clicking on a series of hexes. The Pull up and Push down buttons allow two types of Basic tiles, open tiles and escarpment tiles, many tiles which could also fit the definition "slope".

ns allow the selection of Transparent tiles. When "transparent" appears in the Information bar next to the selected tile, it can be laid over Basic tiles as well as other Transparent tiles. Streams, roads, fences, woods, brush, and fields are examples of Transparent tiles.

nt tiles can be erased using the Transparent tile eraser button in the bottom row (it looks like a large eraser). Left-clicking on a hex with the eraser active makes the eraser active. Left-clicking on a hex with the eraser active causes the hex to revert to its Basic tile. The eraser button must replace the one already on the map.

 AGE OF RIFLES scenarios can be set in one of five different terrain regions: temperate, savanna, desert, tundra, and ice. Each region has a separate set of tiles reflecting a region of the world. The five buttons changes to the appropriate tileset.

ontrol
vation can be placed using slope or escarpment Basic tiles. The level of any slope or escarpment tile prior to placement of tiles, it is a good idea to have the elevation display window display button from the buttons down the right side of the map. Elevation tiles whose level is inconsistent with the

on removes all Basic tiles from the map.

on removes all Basic and Transparent tiles

on removes all Transparent tiles from the map.

ion

create a new map for a scenario is to let the editor create a map. The five sliders control the five qualities that make up a random map: hills, roads, woods, habitation, and water. Moving a slider changes the incidence of that particular type of feature. Left-clicking on the map button causes the editor to generate a random map.

Drawing Mode

The buttons constitute the "drawing tools." Left-clicking on this button cycles through the options of drawing tools. The choices are:

Simple Tile



This is the simplest, but most time consuming way to create a map, one tile at a time.

Automatic Fill



Automatic fill is a fast way to place any one kind of tile over the entirety of the map. In order to use this tool, a type of terrain is chosen and the number is selected. That hex changes to reflect the tile chosen. Left-clicking on any of the palette squares completes the fill process.

Terrain Blob



The Terrain Blob tool fills the hex selected and the six surrounding hexes with the tile appearing in the center palette square. In order to use this tool, a type of terrain is chosen and the start hex is selected. That hex changes to reflect the tile chosen. Left-clicking on any of the palette squares completes the fill process and fills the surrounding hexes with the chosen tile.

Line Draw



The Line Draw tool facilitates drawing linear terrain features by filling the hexes between any hex and the next selected hex with the current tile. This tool won't simplify creating complex figures such as fences or road networks, but it simplifies drawing a stream or road from one edge of the map to another.

Text



The Text tool allows placement of text legends for naming terrain features. When a hex is selected, a text bar appears that can hold up to twenty characters. Pressing Enter places the legend in the hex. Selecting the hex again allows the legend to be edited or deleted; text cannot be erased any other way.

Pull Up Mode



Pull up mode "pulls" the selected hex up an elevation level. Clicking on a single hex more than once raises that hex to successively higher levels. Because of another tool called the Autofit, or Automatic Contour, large hills or ranges of hills can be made by left-clicking on a series of hexes to create smoothly-contoured elevations. The Pull up and Push down modes work only with the first two types of Basic tiles, open tiles and escarpment tiles. The open tile type contains many tiles which could also fit the definition "slope" tiles.

works opposite to Pull up, by "pushing" down terrain, to a base level of '1'. The Automatic Contouring tool makes editing elevations easier.

Four Tool

Automatic Contouring is on when the button is in a diamond shape, and off when the diamond appears as a square.

The Four Tool allows the creation of appropriately shaped elevations and bodies of water, without having to go through every hex. To make a lake or river, select the body of water tool. Left-click on three hexes that are adjacent to each other. Two clicks, one hex appears to be solid blue, and the third click creates a small lake. Automatic contouring has found the appropriate tiles to use. Clicking in the hexes around the small lake will change the shoreline as needed. Automatic contouring will use Transparent tiles.

Clicking on this button opens a window which allows the selection of the scenario from one of three ranges:

minutes per turn
minutes per turn
minutes per turn.

Seven different sizes of map that can be used to make an Auto scenario, from 20x20 hexes up to 50x50 hexes. This button allows the selection of map size is made. Clicking on the Ok button will create a blank version of the size selected.

The bottom screen is a row of buttons which display information about the map and commands on the Map window. Many of these duplicate the File, or Edit menus. There are also keyboard "hot keys" listed in Appendix B.

Scenario Environment



The Scenario Environment window contains controls for the weather and time for the scenario. The weather controls allow the wind speed and direction to be set, as well as the amount of precipitation and ground conditions.

The time controls determine when dusk and dawn occur on the day of this particular scenario, and what the battle's starting and ending time is. The scenario ending time can be made variable by changing the Game Options menu setting Variable Scenario Length to On. When playing a game using this option, the scenario end can happen earlier or later than the time selected. The Start button adjusts when the scenario begins, the End button is used to set both the length and the ending time for the scenario.

Note: The scenario starting and ending times also determine how many turns the scenario will run. The smaller the scale, the greater number of turns for a period of time. In other words, a 100 yard/10 minute turn scale scenario, whose starting time is 12 noon and whose ending time is 6 PM, would be thirty-six turns long. At the 400 yard/40 minute turn scale it would last nine turns.

Finally, this is where the initiative for the first turn is set. Left-clicking on the First Player button cycles through three choices, the scenario name, side one or side two. If side is selected, it becomes the first side to phase in the scenario. If the option is left on the scenario name, AGE OF RIFLES determines which side goes first.

Edit Order of Battle



Changes to the Unit Editor screen.

Edit Deployment



This option switches to the Deployment Editor. See the "Deployment" section on page 54 for more information.

Hex Grid Toggle



The Hex Grid button turns the display of the hex grid overlay on and off.

Load Map



This button, and the equivalent File menu option, opens the Load Map window where saved map files can be loaded for further editing.

Save Map



This button and the equivalent File menu option opens the Save Map screen.

Show All Tiles



Left-clicking on this button opens the Show All Tiles window where all tiles are displayed at once.

Elevation Display



This button toggles the display of each hex's level. Use this button to toggle building elevations to prevent making improbable terrain features.

Edit Description



This button, and the equivalent Edit menu option, transfers to a window where briefing text can be entered. When all appropriate text has been entered, press the ESC key. The text can be saved, discarded, or continued. If saved, the text is appended to the scenario only if the scenario itself is saved afterwards.

Load Scenario



This button, and the equivalent File menu option, opens the Load Scenario window where scenario files can be loaded for further editing.

Save Scenario



This button, and the equivalent File menu option, opens the Save Scenario window. AGE OF RIFLES will query whether or not this scenario is part of a campaign. Unless the Campaign Information has been edited, click on the "thumbs down" button. If the scenario is to be the first in a campaign, left-click on the "thumbs-up" button. This opens the Campaigns screen where a name for the campaign can be entered. Once a name has been entered, the view returns to the previous screen. This step establishes this scenario as the beginning of the campaign. The scenario should now be saved again, to actually "save" the scenario, and then left-click on the thumbs down button when queried if this is the first scenario of a campaign. AGE OF RIFLES will always inquire if this is to be the first scenario of a campaign, however, this question should only be answered "yes" the first time a scenario is used to begin a campaign. In order for the campaign to proceed to more than one scenario, links to other scenarios must be set using the Edit Campaign Info option.

Edit Campaign Info



This button, and the equivalent Edit menu option, allows scenarios to be linked together to form a campaign. A draw or victory by either side can cause the campaign to continue or end, depending on the preferences established.

If the option Next Scenario is chosen for either side, or as a result of a draw, an option appears for a new scenario name. The name of the next scenario must be entered; this is the scenario that will be loaded as the next engagement for the campaign. Selecting End Campaign for a win by either side, or as a result of a draw, means that the campaign ends on that result.

The Campaign Commentary option allows descriptive text to be entered. There are three options: Save Document, Quit Document, and Cancel. The text box for more text entry. Note: Each scenario is saved, it is separated from the other scenarios in a campaign. Do not click on the "thumbs-up" button to make the first scenario in a campaign.

Tactical Overview Map



The Tactical Overview Map window displays a map halfway between that of the Map screen and the Campaign screen. Units which have been placed are shown on this map. Units which have been placed are shown as arrow symbols in the Campaign screen.

Scenario Report



The Report button shows a synopsis of editing in effect.

Undo



The Undo button allows the previous action to be used to correct errors.

Return to Main screen



This exits the Scenario Editor and returns to the main screen without saving the work in progress.

Unit Editor

The Unit Editor screen can be reached with the second button on the Rifles Construction Option screen, or by using the Edit Order of Battle option from the Edit menu. If this option is selected from the Rifles Construction Option screen, it is necessary to choose a scale for the scenario before actually going into the Unit Editor.

Most of the options in the Unit Editor screen are reached by left-clicking on a button and what it represents at the bottom of the screen.



Clicking on this button opens the Show All Tiles window, which displays all tiles at once.

Clicking on this button toggles the display of each hex's level. Use this feature to prevent making improbable terrain features.

Clicking on this button, and the equivalent Edit menu option, transfers the scenario text to the text box for more text entry. When all appropriate text has been entered, the text can be saved, discarded, or continued. If saved, the scenario only if the scenario itself is saved afterwards.

Clicking on this button, and the equivalent File menu option, opens the Load Scenario window, where scenario files can be loaded for further editing.

Clicking on this button, and the equivalent File menu option, opens the Save Scenario window. If a scenario has been edited, click on the Save Scenario button. If the scenario is to be the first in a campaign, left-click on the Save Scenario button. This opens the Campaigns screen where a name for the campaign can be entered. Once a name has been entered, the view returns to the scenario editor. To establish this scenario as the beginning of the campaign, click on the Save Scenario button. To save the scenario again, to actually "save" the scenario, and then return to the scenario editor, click on the Save Scenario button. The Save Scenario button will always inquire if this is the first scenario of a campaign. The question should only be answered "yes" the first time a scenario is saved. In order for the campaign to proceed to more than one scenario, the scenario must be set using the Edit Campaign Info option.

Clicking on this button, and the equivalent Edit menu option, allows scenarios to be added to a campaign. A draw or victory by either side can be entered, depending on the preferences established. If a draw is chosen for either side, or as a result of a draw, an option to name the next scenario must be entered. The name of the next engagement for the campaign will be loaded as the next engagement for the campaign. A win by either side, or as a result of a draw, means that the campaign is over.

The Commentary option allows descriptive text to be entered. Pressing the Esc key opens the text box for more text entry. **Note:** Each scenario must be saved as it is entered in order for the campaign links to be established. When a scenario with campaign links is saved, it is separated from the other scenarios to maintain its links to the campaign. Do not click on the "thumbs-up" button when queried unless this is the first scenario in a campaign.

Preview Map

The Tactical Overview Map window displays the entire map on a scale halfway between that of the Map screen and the Microview panel. Any objectives which have been placed are shown on this map as small national flags. Units which have been placed are shown as arrow symbols indicating facing.

Scenario Report

The Report button shows a synopsis of editor control options currently in effect.

Undo

The Undo button allows the previous action to be undone; this can be used to correct errors.

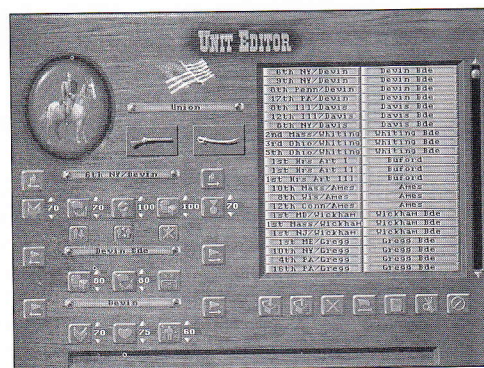
Return to Main screen

This exits the Scenario Editor and returns to the Main Menu screen without saving the work in progress.

Unit Editor

The Unit Editor screen can be reached with the second button on the Rifles Construction Option screen, or by using the Edit Order of Battle option from the Edit menu. If this option is selected from the Rifles Construction Option screen, it is necessary to choose a scale for the scenario before actually going into the Unit Editor.

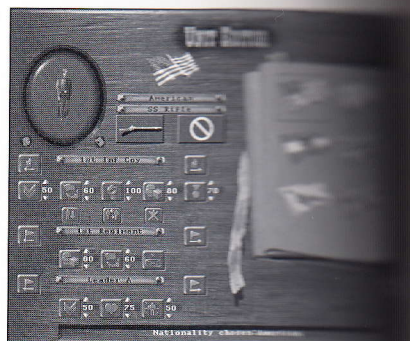
Most of the options in the Unit Editor screen are represented by icon buttons; simply left-click on a button and what it represents is listed in the Information bar at the bottom of the screen.



The Unit Editor screen is where all units in the game, and consequently commands, are created. Four levels of detail must be considered when building a unit using the Unit Editor, the side the unit is on, the unit itself, the command it is attached to, and the leaders who control the command.

Choosing Sides

The active side is represented by a large flag near the top center of the Unit Editor screen. The nationality that the flag represents is displayed as a brass plate button below the flag; left-clicking on the flag opens a book showing the flags of all of the nations included in AGE OF RIFLES. Clicking on a flag selects that nation and sets the national defaults for Training, Morale, and Supply. These numbers appear in the appropriate registers as soon as a primary weapon is chosen for the first time.



The active side's name can be changed to create a nationality that was not included in the game by left-clicking on the brass plate button and typing in the field that appears.

Soldier Portrait

The oval panel in the upper left corner is where the image seen in the Unit Editor panel is constructed. Four pieces of uniform are selected by clicking on specific areas of the panel. Clicking on the head displays a variety of uniform headgear worn by soldiers of the period. Likewise, the chest brings up a display of uniform tunics and coats, the legs a display of uniform trousers, kilts, and aboriginal garments, and the feet a display of boots and shoes. Most of the historical uniforms from the period included in AGE OF RIFLES can be constructed from these pieces. For quick scenario design a generic soldier of each of the nationalities in AGE OF RIFLES appears when that nationality is chosen.

Two keyboard hot keys have been configured to simplify the process of dressing large forces of similar troops. The g key will "get" or copy the current portrait and store it for later use. The p key will "put" or paste the stored portrait until another portrait is stored in its place.

Mounts and Limbers



When building a cavalry unit or artillery battery, mounts or limbers must be added to the unit. Left clicking on the Mount icon enables horses to be added to the unit. Cavalry units are automatically assigned one horse per trooper.

Artillery batteries were designated as "horse" or "field" depending on whether they were to be transported with the guns or marched. To create a field battery, click on the horse icon. To create a horse battery, double-click on the horse head. If a horse battery is moved by prolong, one hex per trooper is required for the guns themselves.

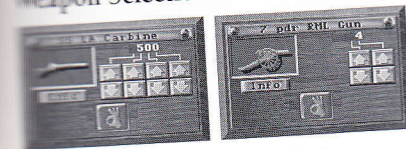
Weapon Selection

Soldiers in AGE OF RIFLES scenarios can have different weapon types. Clicking on the Head button toggles through light, medium, or dark.

Weapons

Directly beneath the nationality button is a panel with two buttons, one of which starts weapon selection. Above these buttons are two buttons for primary and secondary weapon selection and display. Clicking on the primary weapon button selects the primary weapon, which shows a window to appear where the choices of Weapon Type, Weapon, and Cancel are presented. Once a weapon is selected, a brass plate button above the Weapon Type buttons. Left-clicking on this button toggles between primary and secondary weapon selection. A unit can have more than one weapon. The weapon color for the secondary weapon.

Weapon Selection and Unit Size



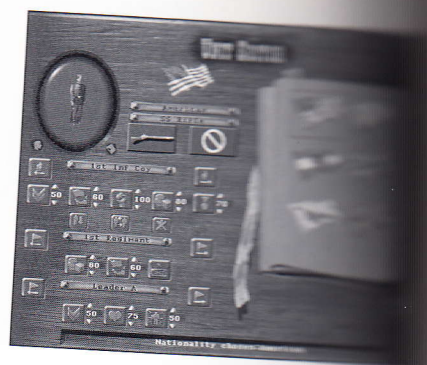
These weapons include:

- Melee weapons such as sabers, pistols, and lances
- All available infantry firearms
- Artillery and other crew served weapons
- Assorted gunboats and warships

Weapons have different requirements for the number of units that can use them. Larger, crew-served weapons such as ships are automatically given the number of units assigned. Infantry and cavalry melee weapons are assigned the number of weapons determines the number of weapons work the same.

green is where all units in the game, and command. Four levels of detail must be considered when making a unit, the side the unit is on, the unit itself, the command, and the leaders who control the command.

represented by a top center of the. The nationality is displayed as below the flag; clicking opens a book of all of the nations in AGE OF RIFLES. Clicking on the book sets the training, Morale, and numbers appear in



as soon as a primary weapon is chosen for the first unit. It can be changed to create a nationality that was not included in the brass plate button and typing in the field that appears.

Upper left corner is where the image seen in the Unit Editor. Four pieces of uniform are selected by clicking on specific icons. Clicking on the head displays a variety of uniform headgear for the period. Likewise, the chest brings up a display of uniform shirts, a display of uniform trousers, kilts, and aboriginal gear, and boots and shoes. Most of the historical uniforms from the AGE OF RIFLES can be constructed from these pieces. For each nationality soldier of each of the nationalities in AGE OF RIFLES, a nationality is chosen.

have been configured to simplify the process of dressing units. The g key will "get" or copy the current portrait and the p key will "put" or paste the stored portrait until another key is pressed.

For a cavalry unit or artillery battery, mounts or limbers must be selected. Left clicking on the Mount icon enables horses to be added to the unit. The unit is automatically assigned one horse per trooper.

Artillery batteries were designated as "horse" or "field" depending on whether the unit was to move with the guns or marched. To create a field battery, click once on any of the horses that appear when the Mount icon is selected. To add enough horses to a horse battery, double-click on the horse head. If no horses are added to an artillery battery, it is moved by prolong, one hex per turn, to represent the crew moving the guns themselves.

Head Color



Soldiers in AGE OF RIFLES scenarios can have one of three flesh tones. Left-clicking on the Head button toggles through the skin tone options of light, medium, or dark.

Weapons



Directly beneath the nationality button is a blank brass plate button above two buttons, one of which starts with a rifle in it. These are the primary and secondary weapon selection and display buttons. Left-click on the left-hand button to select the primary weapon, which should always be done first. This causes a window to appear where the choices of Weapon Type, Weapon Number, Info, and Cancel are presented. Once a weapon is selected, its name appears in the brass plate button above the Weapon Type buttons. Left-clicking on the name button toggles between primary and secondary weapons, for those units fortunate enough to have more than one weapon. The weapon name button changes to steel color for the secondary weapon.

Weapon Selection and Unit Size



Clicking on the Weapon Type button presents a list of weapons which can be assigned to the unit. This is also where the number of soldiers in the unit is determined.

These weapons include:

- Melee weapons such as sabers, pistols, and lances
- All available infantry firearms
- Artillery and other crew served weapons
- Assorted gunboats and warships

Weapons have different requirements for the number of soldiers needed to operate them. Larger, crew-served weapons such as ships, artillery, and other heavy weapons are automatically given the number of crew that they were historically assigned. Infantry and cavalry melee weapons and firearms are one per soldier, so the number of weapons determines the number of soldiers in the unit. Melee weapons work the same.

multiple types of weapons to a unit, it is important to consider the number of soldiers. Adding firearms or melee weapons to a unit with firearms or melee weapons is not recommended. Adding a weapon such as artillery or machine guns, however, is recommended in that unit.

When a unit is clicked, the large roster panel on the right side of the screen shows the unit listed at the top. It is listed as the 1st Inf Bn. The unit's name can be changed. The phrase (not assigned) appears next to the unit's name if the unit has not been assigned to a larger organization.

Weapon Detail Window
The Weapon Detail window allows the number of weapons assigned to a unit to be changed for each weapon type.

The weapons available in AGE OF RIFLES. Selecting a weapon type opens the Weapon Detail window which displays useful information about the weapon.

Units are needed to operate it.
The number of units needed for a unit armed with this weapon.
The number of units at various ranges, a relative point value.
The number of units about the weapon, such as "frantic fire" capability.

Without making any changes.

How the weapon and uniform panels is where each unit is assigned to open the unit name field, which can be up to 30 characters. Press the Enter key to assign the name.

The default name based on unit size. This generally reflects the size of a unit of this size. For approximate sizes of historical units, see the "Miscellaneous Definitions" appendix on page 62.

Unit Buttons

When there is more than one unit, these buttons allow each unit to be selected in succession.

Unit Characteristics



Once a unit has been outfitted with uniforms and weapons, step two is to decide how good the unit is. Units are rated from 0 to 100 in five characteristics: training, morale, vitality, supply and experience. Left-clicking on each button displays the characteristic's value at the bottom of the screen. These settings are used to determine the unit's capability rating and ability to resupply. Each nation has pre-set levels of training and morale based on extensive historical research, which can be adjusted up or down to simulate a variety of situations.

Supply represents the percentage of a full load of ammunition that the unit starts the scenario with. For most infantry units, this means that supply settings of 80 to 100 will equip a unit with a full load of two ammunition points. Supply settings of 25 or less mean that the unit will start with no ammunition points.

The "Western" and "Eastern" selections can be used for nations not included in the game.

Characteristic settings can be changed by one by left-clicking on the up or down arrows next to the number, or by ten by right-clicking on the button for each characteristic. For more information on the game effects of the characteristics, see the "Unit Capability" section on page 33.

Move, Copy, and Delete



The three buttons below the unit characteristic settings allow units in the roster window to be moved from command to command, copied, or deleted. Copying units is the fastest way to create multiple units with similar characteristics, uniforms, and weapons. Deleting a unit should be a last resort; once deleted a unit cannot be restored.

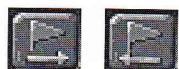
Command Names

The third brass plate button from the top contains a default command description depending on the scenario scale selected in the Map Editor or when the Unit Editor was started. The default command sizes are:

100 yard scale	Regiment
200 yard scale	Brigade
400 yard scale	Division

AGE OF RIFLES assigns a default name based on command size. This generally reflects the historical designation for a command of that size. For approximate sizes of historical commands, see the "Miscellaneous Definitions" section on page 62.

Next and Previous Command Buttons



Once there is more than one command, these buttons allow commands to be selected in succession.

Command Supply and Morale

Two other supply and morale settings lie below the Command Name settings. Overall supply and morale for the selected command can be adjusted using these settings. Command supply sets the base chance for a unit of that command to be supplied from turn to turn. Command morale establishes that command's morale when battle is joined; during combat, unit morale is the important factor.

Command Limit Button



This button toggles the number of units that can be assigned to a given command. When the Small Command limit is set, a command can only be assigned twelve units. When the Large Command limit is set, a command can be assigned up to forty units.

Command Assignment

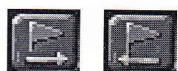
A unit can be assigned to a command, which is the next largest level of military organization, as soon as it has soldiers in it. This occurs by clicking on the (assigned) side of the unit roster. Units are automatically assigned to the first command available based on the Command Limit.

If there are several units listed in the roster panel and a unit is selected which has units below it, all units following the selected unit will be assigned along with the unit. Any unit below the first whose assignment is changed can be reassigned to its original command or to a new command. New commands are created in numerical order starting with the 1st and so on. These names can be edited using the command name button.

Leader Name

The final brass plate button always reads "Leader A" when the Unit Editor is summed. This name can be selected and edited like any of the other name items, and contain up to sixteen characters. Each new command that is created has its own "Leader A" and subleader's B through F until they are renamed.

Next and Previous Leader Buttons



Clicking on these buttons will cycle through a command's sub-leaders which are listed by a default of Leader B through Leader F on a steel colored background. Subleaders are assigned to specific units during the deployment process.

Leader Characteristics



A leader or subleader's capabilities: charisma, bravery, etc. can be adjusted using the settings here.

Save OOB



This button opens the Save Order of Battle (OOB) files can be named and saved for later use.

Load OOB



This button opens the Load Order of Battle (OOB) files can be loaded for further editing.

Delete OOB



This button deletes all units listed in the roster for easy restoration. AGE OF RIFLES asks for confirmation.

Switch Sides



Both sides must have at least one unit in any units can be deployed. This button switches the opposing side available for editing.

Force Data



This displays a summary of the forces assigned: number of troops, small arms, artillery, ship point value.

Done



This button completes this session with the Map Editor screen. If all the units on both sides are assigned, then they can be deployed on the map, and the session can be saved.

Undo



Clicking on this button cancels the last command.

Deployment

Once units have been created for both sides of a battle, the map and given orders; this is called deployment. Click the Deploy button to return to the Map Editor screen. See the Edit menu. In order for this process to work, the map must be loaded using the Map Editor. Then create an

Command Buttons

Since there is more than one command, these buttons allow commands to be selected in succession.

and Morale

and morale settings lie below the Command Name. Morale for the selected command can be adjusted. The Supply sets the base chance for a unit of that command to win. Command morale establishes that command's morale in combat, unit morale is the important factor.

button

This button toggles the number of units that can be assigned to a command. When the Small Command limit is set, only twelve units. When the Large Command limit is set, up to forty units.

ent

to a command, which is the next largest level of morale as it has soldiers in it. This occurs by clicking on the unit roster. Units are automatically assigned to the first unit in the Command Limit.

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g on these buttons will cycle through a command's sub- which are listed by a default of Leader B through Leader ground. Subleaders are assigned to specific units during

Leader Characteristics



Characteristics can be adjusted using the settings here.

Save OOB



This button opens the Save Order of Battle (OOB) screen where saved OOB files can be named and saved for later use.

Load OOB



This button opens the Load Order of Battle (OOB) screen where saved OOB files can be loaded for further editing.

Delete OOB



This button deletes all units listed in the roster window with no possibility of easy restoration. AGE OF RIFLES asks for confirmation prior to deletion.

Switch Sides



Both sides must have at least one unit in an Order of Battle (OOB) before any units can be deployed. This button makes the Order of Battle for the opposing side available for editing.

Force Data



This displays a summary of the forces assigned to both sides including the number of troops, small arms, artillery, ships, mounts, units, and relative point value.

Done



This button completes this session with the Unit Editor and returns to the Map Editor screen. If all the units on both sides have been assigned to a command, then they can be deployed on the map, and have objectives set for them.

Undo



Clicking on this button cancels the last change made.

Deployment

Once units have been created for both sides of a scenario, they must be placed on the map and given orders; this is called deployment. From the Unit Editor, click the Ok button to return to the Map Editor screen. Select the Edit unit deployment option from the Edit menu. In order for this process to make the most sense, create a random map using the Map Editor. Then create an OOB for each side using the Unit

Editor. **Note:** It might be wise to save both parts, the map and the deployment, so that if something doesn't quite work out when putting together the final scenario, you can reload the saved portions makes starting over less painful.

The Terrain Tile and Drawing Tools are replaced with the deployment tools, and the Unit Info display. The first unit in the Order of Battle (OOB) is displayed. The primary difference is that the Reaction Orders button has become the Deployment Mode button, and now says Put units. The Others in Hex panel should now show the selected unit "is off map."

The deployment mode can be changed using the mode button, currently set to Put units. Left-clicking on this button changes the option between Put units (place units on the map), Get units (take units off the map), Reinforce (set the current command to act as reinforcements and appear in some later turn of the scenario), or Supply (create a supply point for the current side).

Decide whether or not to put armies in the north and south sections of the map, the east and west. Select a town or road hex as a good starting spot. Left-click on the hex to set the unit down. Notice that the command leader was automatically deployed with the unit. The leader is denoted by the small flag that appears next to the unit icon. Set any remaining units in hexes around the first by left-clicking. Remember, any hex can be viewed without giving any special commands; just right-clicking on it. To reassign the command leader to another unit, right-click on the unit he is currently assigned to, and then left-click on his name as it appears in the Others In Hex panel at the bottom of the screen. In the window that appears, choose the Change assignment option. Any leader can be reassigned to another unit in this fashion.

Making a Supply Point and Setting Objectives

To create a supply hex left-click on the Deployment Mode button in the unit information box currently set at Put units. When the button reads Do supply, a supply hex can be set anywhere on the map by left-clicking; however, for the current command, just lay one supply hex near the units on the map. When done, click on the Deployment Mode button until it reads Put units again.

Remember that supply points that are not on a map edge represent accumulations of food and munitions. One of these that has been occupied by enemy forces ceases to provide friendly supply until it is retaken by a friendly unit. Supply points on a map edge never change allegiance, because they represent channels of supply coming from off map. They are unable to provide supplies, however, when occupied or interdicted.

Left-click on the map to place the units from the first side. When all units are placed, the Information Bar signifies that it's time to set the command objectives. Five objective hexes are allowed per command, although there are rarely more than one or two

per scenario. Putting down an objective on the map is as simple as a left-click on any map hex. The objective is labeled "Obj. #1" and go to "Obj. #5". Go ahead and lay down objectives at some point on the opposite side of the map. In the game, the command follows this path of objectives to the next objective. Removing objectives is just as simple; left-click on an objective to remove any placed objective. When an objective is removed, any higher than it are also removed.

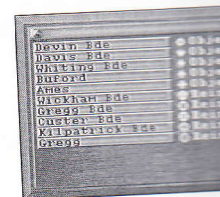
The computer effectively directs the computer's units along a path. The computer can follow any route to the final objective. Objectives are given values relative to their importance in the scenario. The computer uses a way point for the computer player.

Edit Objective

Click on the Edit Objective button and a window appears from 1 to 250. As soon as an objective is assigned a value, it appears on all maps as a flag. Initial ownership of the objective, where it is placed, and each side's orders are set at the end of the scenario for whoever is in possession of it. Only objectives with point values appear placed on the map. If a scenario is created with multiple commands, each command has objectives, but take care not to place too many objectives. Be sluggish as it attempts to track them all. Watch carefully where objectives are set. These are the hexes that the current command must defend. It is a good idea to make objectives at crossroads, or some other easily identifiable feature. If an "Exit" hex, it must be the highest numbered objective and must be placed on the edge of the map.

Orders

Now the current side must be given its orders. Select the Commands option from the Info menu. The right side button on the pop-up menu shows the default orders, Defend normally. Left-click on the button to cycle through the orders. Do this for all commands on the list. Now the command has their final objective. Click on the command name and their status.



It is wise to save both parts, the map and the scenario. The work out when putting together the final scenario is starting over less painful.

Drawing Tools are replaced with the deployment tools. The first unit in the Order of Battle (OOB) is deployed. The Reaction Orders button has become the Deployment button. It says Put units. The Others in Hex panel should now be empty.

can be changed using the mode button, currently set to Put units. This button changes the option between Put units (place units on the map), Reinforce (set the current command to appear in some later turn of the scenario), and Defend (for the current side).

to put armies in the north and south sections of the map. A town or road hex as a good starting spot. Left-click on the map. Notice that the command leader was automatically assigned. The leader is denoted by the small flag that appears on the remaining units in hexes around the first by left-clicking. be viewed without giving any special commands. You can assign the command leader to another unit, right-click on the unit, and then left-click on his name as it appears at the bottom of the screen. In the window that appears, select the option. Any leader can be reassigned to another unit.

Setting Objectives

Left-click on the Deployment Mode button in the unit menu. Put units. When the button reads Do supply, a supply point is placed on the map by left-clicking; however, for the current command, left-click on a hex near the units on the map. When done, click on the button until it reads Put units again.

Units that are not on a map edge represent accumulations of these that has been occupied by enemy forces cease to exist until it is retaken by a friendly unit. Supply points are placed on the map, because they represent channels of supply. Units are unable to provide supplies, however, when they are occupied by enemy forces.

Place the units from the first side. When all units are placed, it's time to set the command objectives. Five objectives are set for the command, although there are rarely more than one or two

objectives in a scenario. Putting down an objective on the map is identical to putting units on the map: a simple left-click on any map hex. The objectives which are placed start with "Obj. #1" and go to "Obj. #5". Go ahead and lay down a "path" of objective hexes across the map at some point on the opposite side of the map. Under computer control in the game, the command follows this path of objectives to the "final" objective.

Removing objectives is just as simple; left-click on an objective hex a second time to remove any placed objective. When an objective is removed, all objectives numbered higher than it are also removed.

This effectively directs the computer's units along a predetermined path. A human player can follow any route to the final objective. Objectives can also be assigned point values relative to their importance in the scenario to make them more than just a way point for the computer player.

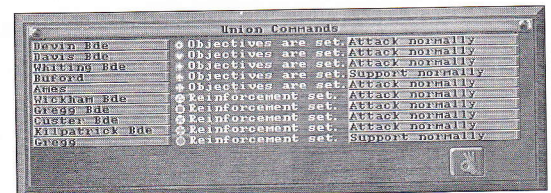
Edit Objective

Click on the Edit Objective button and a window opens that assigns values from 1 to 250. As soon as an objective is assigned a point value of at least one, it appears on all maps as a flag. Initial ownership is based on which side placed the objective, where it is placed, and each side's orders; all points are awarded at the end of the scenario for whoever is in possession of it then.

Only objectives with point values appear placed on the map when playing the game. If a scenario is created with multiple commands, each one may have its own set of objectives, but take care not to place too many objectives or the game may become sluggish as it attempts to track them all. Watch carefully where the highest numbered objectives are set. These are the hexes that the current command must attack, and that the opposing side must defend. It is a good idea to make the final objective a town or a crossroads, or some other easily identifiable feature. If an objective hex is to be used as an "Exit" hex, it must be the highest numbered objective assigned to that command, and must be placed on the edge of the map.

Orders

Now the current side must be given its orders. Select the Commands option from the Info menu. The right side button on the pop-up menu shows the default orders, Defend normally. Left-click on the button to cycle through the orders to Attack normally. Do this for all commands on the list. Now the commands have orders to attack their final objective. Click on the command name to view the units in the command and their status.



Left-click on the Ok button to finish this side's orders. This side now has the objective to attack, and the other side needs an objective to defend.



The Switch Sides button is the last button on the right side of the Deployment Mode window. Click on it to switch sides. Change the Deployment Mode button to Do supply and lay a supply line on the objective hex as well. Now select the Commands option from the left menu. Give all commands orders to Defend normally. Lastly, change the Deployment Mode button to Put units. Place one objective hex for each command in exactly the same position as the other side's final objective. If this has been done correctly, the computer should defend this hex and the other side's units should attack it when the scenario is played.

Tuning the Artificial Intelligence

Commands are given orders in this fashion to give the artificial intelligence a directive for how to participate in the scenario. Each setting has two parts; the first word determines a unit of that command's general activity, the second determines the unit's vigor in carrying out the first order.

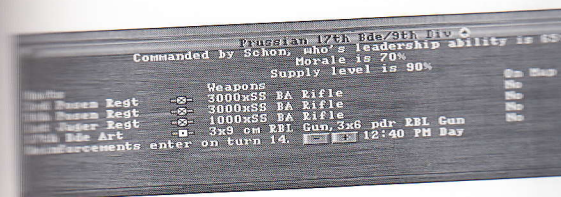
The primary orders settings consist of general orders that determine how the command, and thus the unit, begins the scenario, and what it is intended to do in context with the assigned objectives. These orders are:

- **Defend:** Units attempt to prevent the loss of objectives to the opposing side's forces.
- **Attack:** Units attempt to take enemy held objectives.
- **Support:** Units assist friendly units either attacking or defending assigned objectives.
- **Scout:** Units attempt to make and maintain contact with enemy forces in the vicinity of assigned objectives, while avoiding engagement.
- **Wait:** Computer controlled units begin the scenario inactive, then activate to attack assigned objectives when attacked. A human player's units have attack orders.
- **Hold:** Computer controlled units begin the scenario inactive, and are activated when attacked; however, they will only defend. A human player's units have defend orders.
- **Reserve:** These orders are similar to Hold orders, but apply to a **human player** as well as the computer.
- **Delay:** These orders are similar to Wait orders, but apply to a **human player** as well as the computer.

- **Cautiously:** Units avoid overexertion and loss of command.
- **Normally:** Units move up to the limit of normal movement. Units will fire, but not engage in melee.
- **At All Costs:** Units move the full extent of movement until melee range is reached, then launch an assault if possible.

Inactive Units

When using Wait, Delay, Hold, or Reserve orders the units are inactive until they are attacked by an enemy unit, or until the unit is given orders beginning the turn after they are attacked. The indicator at the top of the map panel.



The activation turn for units with Wait, Delay, Hold, or Reserve orders is shown in the Command Details window. Click on the Command Details window. Click on the Command Details button in the Commands window; when the window opens, the units of the selected command are shown. At the bottom of the window the activation turn and the buttons. Units become active on turn six by default.

Reinforcements

In order to have units enter the map on some turn later, they must be set up as reinforcements using the Reinforcements commands with Wait, Delay, Hold, or Reserve orders, and the map to begin with, but enter on or near some point.

After selecting a command that is not yet on the map, click on the Deployment Mode. Scroll to the edge of the map and place the command to enter. This could be a strategically placed unit, generally be on a road or at a map edge supply point. This defines where the command will place other objectives to act as a path for the command. Select the Info menu item Commands; the words "Reinforcements set." Give the command

button to finish this side's orders. This side now has an objective to defend.

Sides button is the last button on the right side of the map. It is used to switch sides. Change the Deployment Mode button to Do supply and lay a supply line around the objective hex which is the other side's objective. Change the Deployment Mode button to Do supply and lay a supply line as well. Now select the Commands option from the left side of the map. Select the Orders to Defend normally. Lastly, change the Deployment Mode button to Do supply and lay a supply line. Select one objective hex for each command in exactly the same way as the first command. If this has been done correctly, then the scenario is set and the other side's units should attack it when the scenario begins.

Intelligence

Orders in this fashion to give the artificial intelligence units a role to participate in the scenario. Each setting has two parts. The first part of that command's general activity, the second defines the specific order.

Orders consist of general orders that determine how the units behave, it, begins the scenario, and what it is intended to achieve. These orders are:

prevent the loss of objectives to the opposing side's forces.
take enemy held objectives.

units either attacking or defending assigned objectives.

make and maintain contact with enemy forces in the vicinity of the objective, avoiding engagement.

led units begin the scenario inactive, then activate to attack the objective. A human player's units have attack orders.

led units begin the scenario inactive, and are activated when the objective is attacked. A human player's units have defend orders.

will only defend. A human player's units have defend orders.

similar to Hold orders, but apply to a human player as well as the AI.

similar to Wait orders, but apply to a human player as well as the AI.

Orders which define how vigorously the above orders are carried out are:

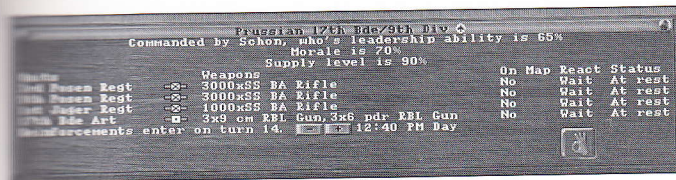
Cautiously: Units avoid overexertion and loss of communication.

Normally: Units move up to the limit of normal movement, but won't risk becoming wounded. Units will fire, but not engage in melee.

At All Costs: Units move the full extent of movement every turn. Units will fire and engage in melee range is reached, then launch an assault if appropriate.

Inactive Units

When using Wait, Delay, Hold, or Reserve orders the entire command is inactive and they are attacked by an enemy unit, or until their activation turn arrives. If they are attacked by an enemy unit, they can only defend themselves. Units can be given orders beginning the turn after they are attacked, based on the turn/time indicator at the top of the map panel.



The activation turn for units with Wait, Delay, Hold, or Reserve orders is set in the Command Details window. Click on the Command Details button or the name of the command in the Commands window; when the Command Details window opens, the units of the selected command are shown with their orders and status. At the bottom of the window the activation turn and time are displayed with - and + buttons. Units become active on turn six by default unless this is changed with the buttons.

Reinforcements

In order to have units enter the map on some turn later than the beginning of the game, they must be set up as reinforcements using the Reinforce Deployment Mode. Unlike commands with Wait, Delay, Hold, or Reserve orders, reinforcements are not present on the map to begin with, but enter on or near some predetermined time.

After selecting a command that is not yet on the map, select the Reinforce Deployment Mode. Scroll to the edge of the map and select an appropriate hex for the command to enter. This could be a strategically placed empty hex, but should generally be on a road or at a map edge supply point. Left-click in that hex to place objective #1. This defines where the command attempts to enter the map. Now place other objectives to act as a path for the command to follow towards its final objective. Select the Info menu item Commands; the command should appear next to the words "Reinforcements set." Give the command orders as described previously.

until it has the proper combination to attack or defend however reinforcements are required. Click on the command name and the Command Details window will appear. The line on the bottom reads "Reinforcements enter on turn 6." followed by a list of buttons and the time the reinforcements are scheduled to arrive. Clicking on the button closes this window and sets the time for this reinforcement.

Deployment Editor Menu

The Deployment Editor has the same three menu options as the Map Editor: Edit, and Info which serve vital functions in the scenario creation process.

The File Menu

The File menu contains options for loading or saving maps, scenarios, and order of battle (OOBs).

Load Map

This option opens the Load Map window where saved map files can be loaded for further editing.

Load Order of Battle

This option opens the Load Order of Battle (OOB) window where saved OOB files can be loaded for further editing.

Load Scenario

This option opens the Load Scenario window where scenario files can be loaded for further editing.

Save Map

This option opens the Save Map window where map files can be named and saved.

Save Scenario

This option opens the Save Scenario window. AGE OF RIFLES will query whether or not this scenario is part of a campaign. Unless the Campaign Information has been edited, click on the "thumbs-down" button. See the "Creating a Campaign" section on the next page for more information.

Go to Main Menu

This exits the Deployment Editor and returns to the Main Menu screen without saving.

The Edit Menu

The Edit menu contains options that permit the modification of scenario components.

Edit Map

This option removes all units and objectives and switches to the Map Editor.

Edit Order of Battle

This option switches to the Unit Editor for modification of the current order of battle.

Random Deployment

This option randomly deploys troops and assigns objectives for the current scenario.

Remove All Units

This option removes all units and objectives from the current scenario.

Calculate Possession

This option calculates terrain possession for the purpose of determining victory.

Edit Description

This option transfers to a screen where briefing text can be entered. Appropriate text has been entered, press the Esc key. Text can be saved or continued. If saved, the text is appended to the scenario itself is saved afterwards.

Edit Campaign Info

This option allows scenarios to be linked together to form a campaign. Victory by either side can cause the campaign to continue or end. Preferences established using this window.

The Info Menu

The Info menu offers four options: Age of Rifles, Free Memory. These options are explained fully in the Manual.

Saving the Scenario

The scenario is complete, except for one final step. Select the Save scenario option. A window appears asking for victory conditions, then you are asked whether or not the scenario will be fixed or calculated. Calculated victory conditions will be distributed to the various objectives. Fixed victory conditions will be calculated from the values input using the Edit Objective option.

Select the Calculated option unless values were set using the Manual section "Victory Conditions," on page 58.

Creating a Campaign

If the scenario is to be the first in a campaign, left-click on the "thumbs-up" button. AGE OF RIFLES will query whether or not this is to be the first scenario of a campaign. If yes, a name for the new campaign can be entered. Once a name has been entered, the screen returns to the previous screen. In order for the campaign to be saved, links to other scenarios must be set using the Edit Campaign Info option.

Edit Order of Battle

Transfers to the Unit Editor for modification of the currently loaded OOB.

Random Deployment

Randomly deploys troops and assigns objectives for the currently loaded OOB.

Remove All Units

This option removes all units and objectives from the map.

Calculate Possession

Calculates terrain possession for the purpose of determining initiative.

Edit Description

This option transfers to a screen where briefing text can be entered. When all appropriate text has been entered, press the ESC key. The text can be saved, discarded, or continued. **If saved, the text is appended to the scenario only if the scenario itself is saved afterwards.**

Edit Campaign Info

This option allows scenarios to be linked together to form a campaign. A draw or victory by either side can cause the campaign to continue or end, depending on preferences established using this window.

The Info Menu

The Info menu offers four options: Age of Rifles, Weapons Database, Commands, and Free Memory. These options are explained fully in the Info menu section on page 26.

Saving the Scenario

The scenario is complete, except for one final step. Click on the File menu and select the Save scenario option. A window appears as AGE OF RIFLES checks the victory conditions, then you are asked whether or not the value of objectives should be fixed or calculated. Calculated victory conditions are computed by AGE OF RIFLES and distributed to the various objectives. Fixed victory conditions are taken directly from the values input using the Edit Objective controls.

Select the Calculated option unless values were assigned to the objectives; refer to the Manual section "Victory Conditions," on page 39 for more information.

Creating a Campaign

If the scenario is to be the first in a campaign, left-click on the "thumbs-up" button when queried if this is to be the first scenario of a campaign. This establishes this scenario as the starting point, and opens the Campaigns screen where a name for the new campaign can be entered. Once a name has been entered, the view returns to the previous screen. In order for the campaign to proceed to more than one scenario, links to other scenarios must be set using the Edit Campaign Info option.

Edit Campaign Info

This button, and the equivalent Edit menu option from the Map Editor or Deployment Editor, allows scenarios to be linked together to form a campaign. A draw or victory by either side can cause the campaign to continue or end, depending on preferences established using this window.

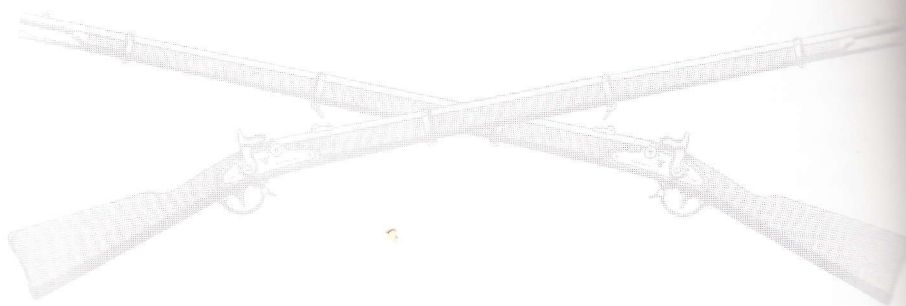
The Next Scenario options for victory by either side, or as a result of a draw, are selected for a campaign to last beyond one scenario. When the button is clicked, an option appears for a scenario name. The name of the next scenario must be entered; this is the scenario that will be loaded as the next engagement in the campaign depending on the results. Selecting End Campaign for a win by either side, or as a result of a draw, means that the campaign ends on that result.

The Edit Commentary option allows descriptive text to be entered. Press the Enter key to end text entry.

Note: Each scenario must be saved as it is linked in order for the campaign links to be established. When a scenario with campaign links is saved, it is separated from the other scenarios to maintain its links to that campaign. **Note:** Do not click the "thumbs-up" button when queried unless this is to be the first scenario in the campaign.

If any steps were missed in the creation of the scenario, the editor indicates this when it is saved. The scenario or campaign is now ready to play!

In no way does this tutorial cover every option of the Scenario Editor. Experiment with all the functions to utilize the Editor's every feature.



APPENDICES

Appendix A - Miscellaneous Definitions

Battalion: A group of soldiers ranging from one hundred to several hundred. Several battalions make up a regiment (or a brigade in some cases).

Battery: An artillery unit made up of cannon, rockets, or mortars. Usually six to twelve.

Brigade: Two or more regiments with associated support units. Brigades were organized into divisions.

Charge: Currently, units are assumed to be "charging" when in combat while not disorganized.

Company: A body of men from 50 to 250. Several companies make up a regiment.

Division: A division generally consists of two to four regiments.

Leader: Leaders represent Regimental through Company level command. They represent the chain of command supporting higher ranks. Leaders are used to control other units in a command. Leaders are used to control larger bodies called commands. They add their capabilities to the command, and can function to prevent or recover from being isolated. The radius of their leader are isolated and suffer limited movement.

Limber: Crew-served weapons of the nineteenth century. Limbers are states: limbered or unlimbered. Limbered weapons are mounted on caissons, guns and ammunition caissons in train behind the weapon. Limbered weapons were unable to fire, and several minutes were required to unlimber weapons for action. An unlimbered weapon is deployed, caissons open, and horse teams tethered to the weapon. The weapon can only be moved if it is light enough and can be pushed by the crew. This is called "movement by hand" for traversing short distances.

Mount: If a unit has horses, it is capable of mounting. Mounted troops are a trooper's equivalent to limbering. Mounted troops have significant advantages in melee combat, but are vulnerable to enemy fire.

Regiment: Two to five battalions that form the foundation of a division.

Section: A portion of an artillery battery or a company of infantry and caissons.

APPENDICES

Appendix A - Miscellaneous Definitions

Battalion: A group of soldiers ranging from one hundred to over a thousand. Several battalions make up a regiment (or a brigade in some armies).

Battery: An artillery unit made up of cannon, rockets, howitzers, or mortars, usually six to twelve.

Brigade: Two or more regiments with associated support units such as cavalry or artillery. Brigades were organized into divisions.

Charge: Currently, units are assumed to be "charging" into combat if they enter combat while not disorganized.

Company: A body of men from 50 to 250. Several companies make up a battalion.

Division: A division generally consists of two to four brigades.

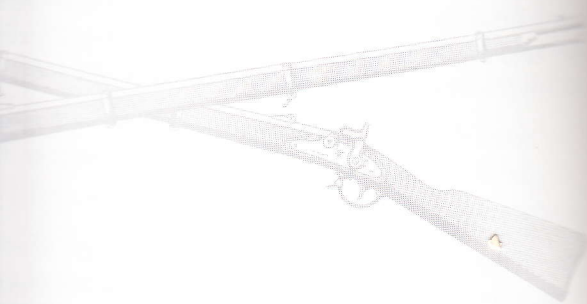
Leader: Leaders represent Regimental through Corps level officers. Subleaders represent the chain of command supporting higher ranking officers and controlling other units in a command. Leaders are used to control and direct units forming larger bodies called commands. They add their capability to units under their command, and can function to prevent or recover from rout. Units out of the control radius of their leader are isolated and suffer limited movement.

Limber: Crew-served weapons of the nineteenth century could be in one of two states: limbered or unlimbered. Limbered weapons were ready for transport, with guns and ammunition caissons in train behind teams of horses. In this state the weapons were unable to fire, and several minutes were required to prepare the weapons for action. An unlimbered weapon is ready to fire, with its crew deployed, caissons open, and horse teams tethered nearby. In this state, the weapon can only be moved if it is light enough and has an appropriate carriage to be pushed by the crew. This is called "movement by prolong," and is only useful for traversing short distances.

Mount: If a unit has horses, it is capable of mounting up. This is the individual trooper's equivalent to limbering. Mounted troops can move very rapidly and have significant advantages in melee combat, but they are also quite vulnerable to enemy fire.

Regiment: Two to five battalions that form the foundation for a brigade.

Section: A portion of an artillery battery consisting of two guns, limbers, and caissons.



Appendix B - Hot Key List

Game Screen Hot Keys

Save Scenario	s
Load Scenario	l
Undo	u
End Turn	e
Change Unit Icon	i
Change Wallop Display	w
Swap Stack	k
Show Command Radius	x
Identify Formation	y
Show Command Details	d
Show Field of View	v
Reporting Menu	r
Open Change Formation	t
Open Change Facing Window	f
Change Facing by 1 Counterclockwise	“,”
Change Facing by 1 Clockwise	“.”
Change Orders	o
Change Command Scope	c
End Scenario & Return To Main Screen	q
Music On/ Off	m
Sound Effects On/ Off	j
Animation On/ Off	b
Graphics Rich/Simple	g
Show Movement Paths On/ Off	p
Show Movement Limits On/ Off	a
Select Next Unit With Movement Points (regardless of command or number of passes)	<space bar>
Exit Popup Window	<Esc>

Map Editor Hot Keys

Save Map	s
Open Terrain Palette Window	a
Single Hex Drawing Mode	d
Auto Terrain Blob	b
Auto Contouring On/Off	c
Undo	u
Go to Unit Editor	o
Return to Main Screen	q
Exit Popup Window	<Esc>

Unit Editor Hot Keys

Change To Primary Weapon	
Change To Secondary Weapon	
Save Order Of Battle	
Load Order Of Battle	
Copy Unit	
Move Unit	
Copy (get) Uniform	
Duplicate (put) Uniform	
Undo	
Open Nationality Book	
Open Headdress Book	
Open Tunic Book	
Open Pants Book	
Open Shoes Book	
Open Mount Book	
Change Skin Tone	
Go To Deployment Editor	
Return To Main Menu	
Exit Popup Window	

Deployment Editor Hot Keys

Open Change Formation Window	
Change Orders	
Change Command Scope	
Save Scenario	
Load Scenario	
Swap Stacking Order	
Show Command Radius	
Put Unit	
Get Unit	
Set Supply Point	
Open Facing Window	
Change Facing by 1 Counterclockwise	
Change Facing by 1 Clockwise	
Set Player Initiative Order	
Open Objective Value Window	
Identify Formation	
Show Command Details	
Show Field of View	
Select Next Unit (regardless of command)	<space bar>
Exit Popup Window	<Esc>

Appendix C - Weapon Descriptions

Weapon Physical Characteristics

Range: This is the maximum range at which the weapon can be used. Some weapons have no ranged combat capability, and a lethality of small arms and machine guns declines significantly as range to 10% at maximum range. All other weapons have a range of 100% at one hex range to 50% at maximum range.

Limbered Move: This is the maximum allowed movement for a weapon in the "limbered" state. Limbers are the horses and carriages used by artillery in the nineteenth century.

Unlimbered Move: This is the maximum allowed movement for a weapon in the "unlimbered" state.

Lethality: This is a measure of how dangerous the weapon is. Lethality declines with range.

Batter: This is a measure of the weapon's ability to damage the hulls of ships.

Crew Size: Each weapon requires a specific number of crew members. In the case of small arms (rifles, swords, and pistols), crew size is 1. Crew-served weapons manned by fewer troops than required suffer reduced lethality and may be unable to change limber state.

Standard Ammo: Each weapon goes into combat with a specific amount of ammunition. In the case of artillery units, large quantities of ammunition are called "caissons." Individual small arms carried by soldiers have less ammunition available, and are subject to rapid depletion if the ammunition source is not nearby.

Weapon Special Characteristics

CNSTR - Canister capable: Due to the availability of canister shot, a weapon has dramatically increased lethality at ranges of 1-2 hexes, depending on the scenario scale. Canister shot turns the weapon into a huge short range shotgun. Most field guns, mortars, rockets and positional weapons can't. This lethality is not available from within the game.

CR SRVD - Crew served weapon.

ARTY - Uses the artillery range tables.

SP-LMBR - Difficult to limber: Some crew-served weapons are difficult to limber in the open, and they can quickly be limbered

List

Unit Editor Hot Keys

s	Change To Primary Weapon
l	Change To Secondary Weapon
u	Save Order Of Battle
e	Load Order Of Battle
i	Copy Unit
w	Move Unit
k	Copy (get) Uniform
x	Duplicate (put) Uniform
y	Undo
d	Open Nationality Book
v	Open Headdress Book
r	Open Tunic Book
t	Open Pants Book
f	Open Shoes Book
wise	Open Mount Book
wise	Change Skin Tone
o	Go To Deployment Editor
c	Return To Main Menu
q	Exit Popup Window

Deployment Editor Hot Keys

g	Open Change Formation Window
p	Change Orders
a	Change Command Scope
Points	Save Scenario
space bar>	Load Scenario
<Esc>	Swap Stacking Order
	Show Command Radius
	Put Unit
	Get Unit
	Set Supply Point
s	Open Facing Window
a	Change Facing by 1 Counterclockwise
d	Change Facing by 1 Clockwise
b	Set Player Initiative Order
c	Open Objective Value Window
u	Identify Formation
o	Show Command Details
q	Show Field of View
<Esc>	Select Next Unit
	(regardless of command) <space bar>
	Exit Popup Window <Esc>

Appendix C - Weapon Descriptions**Weapon Physical Characteristics**

Range: This is the maximum range at which the weapon can damage enemy units. Some weapons have no ranged combat capability, and are only useful in melee. The lethality of small arms and machine guns declines significantly from 100% at one hex range to 10% at maximum range. All other weapons' lethality declines from 100% at one hex range to 50% at maximum range.

Limbered Move: This is the maximum allowed movement for the weapon in its "limbered" state. Limbers are the horses and carriages needed to move artillery during the nineteenth century.

Unlimbered Move: This is the maximum allowed movement for the weapon in its "unlimbered" state.

Lethality: This is a measure of how dangerous the weapon is to the enemy. Lethality declines with range.

Batter: This is a measure of the weapon's ability to penetrate fortifications or the walls of ships.

Crew Size: Each weapon requires a specific number of troops for efficient operation. In the case of small arms (rifles, swords, and so on) the crew size is one. Crew-served weapons manned by fewer troops than the optimum crew size suffers reduced lethality and may be unable to change limber status.

Standard Ammo: Each weapon goes into combat with a fixed load of ammunition. In the case of artillery units, large quantities of ammo are carried in wagons called "caissons." Individual small arms carried by soldiers generally have much less ammunition available, and are subject to rapid depletion of ammo if a supply source is not nearby.

Weapon Special Characteristics

CNSTR - Canister capable: Due to the availability of canister ordnance, the weapon has dramatically increased lethality at ranges up to 400 yards (one or two hexes, depending on the scenario scale). Canister essentially turns an artillery piece into a huge short range shotgun. Most field guns can fire canister, but mortars, rockets and positional weapons can't. This lethality is already added into the fire information available from within the game.

CR SRVD - Crew served weapon.

ARTY - Uses the artillery range tables.

SP-LMBR - Difficult to limber: Some crew-served weapons are designed for use in the open, and they can quickly be limbered or unlimbered. These weapons are

called field guns. Many larger weapons are designed primarily for use against enemy fortifications, as defensive weapons in friendly fortifications, or as naval guns temporarily assigned for army use while retaining their shipboard assignments. These weapons are called positional guns, and are much more difficult to limber or unlimber than are field guns.

NO LMBR - May not limber: Some weapon carriages are simply not designed for movement on the battlefield. Many nineteenth-century mortars were simple cast-iron tubes mounted on wooden platforms, had no provision for ammunition hoists, and could not be moved without completely dismantling the weapon.

F-FIRE - Frantic fire capability: Some weapons are capable of rapid target acquisition and fire for short periods of time. This includes all small arms and machine guns. In game terms, units equipped with these weapons are capable of "frantic fire."

GUNBT, WRSHIP - Gunboats, Ironclads and Warships: These weapons are limited to lake, river and sea hexes. Gunboats and Ironclads can enter shallow water at increased movement cost, although with a small chance of running aground. Warships must remain in deep water. Warships and Ironclads are more resistant to battle damage (providing more protection to their crews) than are gunboats.

FRIGHT - Rockets: Rocket artillery is a bit of a wildcard. Throughout the eighteenth and nineteenth centuries, there was a rocket artillery cult in the British army. Most other forces paid little attention to rocket artillery. Rockets are inherently inaccurate and can sometimes miss their targets. On the positive side, rocket fire can spook poorly trained units (particularly cavalry) within 200 yards of both the firing unit and target hexes.

P-PNLTY - Prone firing penalty: Troops equipped with small arms tend to "take cover" when under fire. In the open, this means that most of the troops assume a prone position (lay down). Bolt action weapons work just fine this way, but other weapons suffer a drop in lethality due to reduced rate of fire.

HY-EQP - Heavy equipment (Can't ford, limited mobility off roads): Positional guns and very large field guns suffer from limited mobility. These weapons can only cross streams at bridges and pay higher movement costs than other equipment when moving off roads.

MOUNT - Mounted combat bonus: Some weapons (lances, swords, and spears) are more effective in melee combat if used by mounted troops. The advantage is lost if the troops are dismounted.

CHARGE - Charge combat bonus: Lances are much more effective in melee combat if used by mounted, formed troops. The advantage is lost if the troops are disorganized or dismounted.

WEAPON INFORMATION

WEAPON	LETHALITY	BATTLES	RANGE**	CREW SIZE	UNLIMBERED MOVE	STANDARD ARMED	SPECIAL ABILITY/FEATURE
Small Gunboat	240	2	8	24	0	36	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Large Gunboat	480	3	8	36	0	36	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Ironclad Gunboat	480	3	8	36	0	36	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Small QF Gunboat	960	3	9	34	0	36	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Large QF Gunboat	1920	5	9	46	0	36	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Small Warship	1440	19	16	200	0	36	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Warship	3000	37	20	400	0	36	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Large TWarship	4500	49	20	800	0	36	CNSTR CR-SRVD F-FIRE ARTY -
4 pdr ML Gun	132	1	5	12	24	6	CNSTR CR-SRVD F-FIRE ARTY -
6 pdr ML Gun	186	2	6	12	24	6	CNSTR CR-SRVD F-FIRE ARTY -
8 pdr ML Gun	192	2	6	12	24	6	CNSTR CR-SRVD F-FIRE ARTY -
9 pdr ML Gun	204	2	8	12	21	9	CNSTR CR-SRVD F-FIRE ARTY -
12 pdr ML Gun	240	2	8	15	21	9	CNSTR CR-SRVD F-FIRE ARTY -
12 pdr ML How	240	2	10	15	21	9	CNSTR CR-SRVD F-FIRE ARTY -
16 pdr ML Gun	198	2	14	18	21	9	CNSTR CR-SRVD F-FIRE ARTY -
18 pdr 7M Gun	216	2	14	18	21	9	CNSTR CR-SRVD F-FIRE ARTY -

Many larger weapons are designed primarily for use as defensive weapons in friendly fortifications. They are usually assigned for army use while retaining their status as positional guns, and are much more difficult to move than are field guns.

Limber: Some weapon carriages are simply not suited to the battlefield. Many nineteenth-century mortars were simply mounted on wooden platforms, had no provision for ammunition transport, and had to be dismantled without completely dismantling the weapon.

Portability: Some weapons are capable of rapid transport over short periods of time. This includes all small arms and most light artillery units equipped with these weapons are capable of "transferring" their positions.

Gunboats, Ironclads and Warships: These weapons are designed to enter shallow waters. Gunboats and Ironclads can enter shallow waters, although with a small chance of running aground. Warships and Ironclads are more resistant to battering (than to their crews) than are gunboats.

Rocket artillery: Rocket artillery is a bit of a wildcard. Throughout the nineteenth centuries, there was a rocket artillery cult in the British army. Rocket artillery is inherently inaccurate, but it can hit its targets. On the positive side, rocket fire can be used to hit targets (particularly cavalry) within 200 yards of both the front and rear of the line.

Penalty: Troops equipped with small arms tend to "take" more casualties in the open. In the open, this means that most of the troops assume casualties. Bolt action weapons work just fine this way, but other weapons suffer from reduced rate of fire.

Positional (Can't ford, limited mobility off roads): Positional weapons suffer from limited mobility. These weapons can only be moved by horse or mule and pay higher movement costs than other equipment.

Combat bonus: Some weapons (lances, swords, and spears) are more effective in combat if used by mounted troops. The advantage is lost if the troops are dismounted.

Combat bonus: Lances are much more effective in melee combat if used by mounted troops. The advantage is lost if the troops are dismounted.

WEAPON INFORMATION

WEAPON	LETHALITY	BATTLES*	RANGE**	CREW SIZE†	UNLIMBERED MOVE	REARDED MOVE	SPECIAL LIMITATIONS
Small Gunboat	240	2	8	24	0	6	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Large Gunboat	480	3	8	36	0	6	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Ironclad Gunboat	480	3	8	36	0	6	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Small QF Gunboat	960	3	9	34	0	8	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Large QF Gunboat	1920	5	9	46	0	8	CNSTR NO-LMBR CR-SRVD ARTY GUNBT -
Small Warship	1440	19	16	200	0	6	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Warship	3000	37	20	400	0	6	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
Large 7" Warship	4500	49	20	800	0	6	CNSTR NO-LMBR CR-SRVD ARTY WRSHIP -
4 pdr ML Gun	132	1	5	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
6 pdr ML Gun	186	2	6	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
8 pdr ML Gun	192	2	6	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
9 pdr ML Gun	204	2	8	12	21	1	CNSTR CR-SRVD F-FIRE ARTY -
12 pdr ML Gun	240	2	8	15	21	1	CNSTR CR-SRVD F-FIRE ARTY -
12 pdr ML How	240	2	10	15	21	1	CNSTR CR-SRVD F-FIRE ARTY -
16 pdr ML Gun	198	2	14	18	21	1	CNSTR CR-SRVD F-FIRE ARTY -
18 pdr 7" ML Gun	216	2	14	18	21	1	CNSTR CR-SRVD F-FIRE ARTY -
24 pdr ML How	228	2	10	20	18	1	CNSTR CR-SRVD F-FIRE ARTY -
32 pdr ML How	246	3	8	20	18	1	CNSTR CR-SRVD F-FIRE ARTY -
4 pdr RML Gun	132	2	15	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
7 pdr RML Gun	186	3	8	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
8 pdr RML Gun	192	3	19	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
9 pdr RML Gun	150	3	16	12	24	2	CNSTR CR-SRVD F-FIRE ARTY -
10 pdr RML Gun	162	3	16	12	21	1	CNSTR CR-SRVD F-FIRE ARTY -
12 pdr RML Gun	180	3	17	15	21	1	CNSTR CR-SRVD F-FIRE ARTY -
13 pdr RML Gun	186	3	24	15	21	1	CNSTR CR-SRVD F-FIRE ARTY -
16 pdr RML Gun	198	3	20	18	21	1	CNSTR CR-SRVD F-FIRE ARTY -
20 pdr RML Gun	216	3	22	18	21	1	CNSTR CR-SRVD F-FIRE ARTY -

WEAPON	LETHALITY	BATTER*	RANGE**	CREW SIZE†	LIMBERED MOVE	UNLIMBERED MOVE	STANDARD AMMO	SPECIAL CHARACTERISTICS
6 pdr RBL Gun	276	3	18	12	24	2	6	CNSTR CR-SRVD F-FIRE ARTY -
7 pdr RBL Gun	282	3	25	12	24	2	6	CNSTR CR-SRVD F-FIRE ARTY -
9 pdr RBL Gun	306	3	25	12	24	2	6	CNSTR CR-SRVD F-FIRE ARTY -
12 pdr RBL Gun	360	4	25	15	21	1	9	CNSTR CR-SRVD F-FIRE ARTY -
15 pdr RBL Gun	366	4	30	15	21	1	9	CNSTR CR-SRVD F-FIRE ARTY -
6.5 cm RBL Gun	300	3	22	12	24	2	9	CNSTR CR-SRVD F-FIRE ARTY -
75 mm RBL Gun	378	4	24	15	21	1	9	CNSTR CR-SRVD F-FIRE ARTY -
9 cm RBL Gun	408	5	26	15	21	1	9	CNSTR CR-SRVD F-FIRE ARTY -
5 in RBL How	588	8	24	15	21	1	9	CNSTR CR-SRVD F-FIRE ARTY -
5.5 in RBL How	432	7	15	18	18	1	9	CNSTR CR-SRVD F-FIRE ARTY -
6 in RBL How	468	8	35	20	18	1	9	CNSTR CR-SRVD F-FIRE ARTY -
75mm QFRBL Gun	690	6	30	15	24	2	9	CNSTR CR-SRVD F-FIRE ARTY -
16 cm ML PHow	246	3	12	20	18	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
272 cm ML PHow	222	3	14	24	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
18 pdr ML PGun	216	2	20	20	18	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
24 pdr ML PGun	228	2	20	24	18	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
24 pdr ML PHow	228	2	7	24	18	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
32 pdr ML PHow	246	3	14	28	18	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
64 pdr ML PGun	222	3	16	32	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
8 in ML PGun	204	3	20	30	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
8 in ML PHow	204	3	14	30	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
10 in ML PHow	258	4	12	32	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
9 in ML PGun	234	4	16	30	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
10 in ML PGun	258	4	20	32	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
11 in ML PGun	282	5	17	32	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
12 pdr RML PGun	240	3	25	18	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
24 pdr RML PGun	228	3	25	24	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
32 pdr ML PGun	246	3	20	24	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
68 pdr ML PGun	234	4	30	32	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -

WEAPON	LETHALITY	BATTER*	RANGE**	CREW SIZE†	LIMBERED MOVE	UNLIMBERED MOVE	STANDARD AMMO	SPECIAL CHARACTERISTICS
7 in RML PGun	270	6	32	28	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
100 pdr RML PGun	246	5	34	24	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
200 pdr RML PGun	156	4	40	28	12	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
14 cm RBL PGun	432	7	28	20	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
16 cm RBL PGun	492	8	35	20	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
19 cm RBL PGun	582	11	35	22	15	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
24 cm RBL PGun	552	13	40	24	12	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
27 cm RBL PGun	414	11	40	24	12	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
32 cm RBL PGun	492	15	60	28	12	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
11 in RBL PHow	432	12	45	32	9	0	24	SP-LMBR CR-SRVD F-FIRE ARTY HY-EQP -
15 cm Mortar	114	2	6	18	0	0	36	NO-LMBR CR-SRVD ARTY -
22 cm Mortar	111	3	8	20	0	0	36	NO-LMBR CR-SRVD ARTY -
27 cm Mortar	138	5	9	22	0	0	36	NO-LMBR CR-SRVD ARTY -
372 cm Mortar	81	3	12	24	0	0	36	NO-LMBR CR-SRVD ARTY -
24 pdr Mortar	114	2	6	22	0	0	36	NO-LMBR CR-SRVD ARTY -
5.57 in Mortar	108	2	6	18	0	0	36	NO-LMBR CR-SRVD ARTY -
8 in Mortar	102	3	8	24	0	0	36	NO-LMBR CR-SRVD ARTY -

WEAPON	LETHALITY	BATTER*	RANGE**	CREW SIZE†	LIMBERED MOVE	UNLIMBERED MOVE	STANDARD AMMO	SPECIAL CHARACTERISTICS
Musket	3	0	3**	1	0	0	2	F-FIRE P-PNLTY -
SS Carbine	3	0	4**	1	0	0	2	F-FIRE P-PNLTY -
SS Rifle	3	0	5**	1	0	0	2	F-FIRE P-PNLTY -
SS Long Rifle	3	0	6**	1	0	0	2	F-FIRE P-PNLTY -
SS LA Carbine	9	0	4**	1	0	0	2	F-FIRE P-PNLTY -
SS LA Rifle	9	0	5**	1	0	0	2	F-FIRE P-PNLTY -
SS LA Long Rifle	9	0	6**	0	0	2		F-FIRE P-PNLTY -
SS BA Carbine	9	0	4**	1	0	0	2	F-FIRE -
SS BA Rifle	9	0	5**	1	0	0	2	F-FIRE -
SS BA Long Rifle	9	0	6**	1	0	0	2	F-FIRE -
MF LA Carbine	15	0	4**	1	0	0	2	F-FIRE P-PNLTY -
MF LA Rifle	15	0	5**	1	0	0	2	F-FIRE P-PNLTY -
MF LA Long Rifle	15	0	6**	1	0	0	2	F-FIRE P-PNLTY -
MF BA Carbine	15	0	4**	1	0	0	2	F-FIRE P-PNLTY -
MF BA Rifle	15	0	5**	1	0	0	2	F-FIRE -
MF BA Long Rifle	15	0	6**	1	0	0	2	F-FIRE -
SS Shotgun	9	0	1**	1	0	0	2	F-FIRE P-PNLTY -
MF Shotgun	15	0	2**	1	0	0	2	F-FIRE P-PNLTY -
Lance	0	0	0**	1	0	0	0	MOUNT+ CHARGE+ -
Saber	0	0	0**	1	0	0	0	MOUNT+ -
Sword/Spear	0	0	0**	1	0	0	0	- Sword or Spear

Note: Small arms lethality deteriorates to 10% at maximum range while artillery lethality deteriorates to 50% at maximum range.

* Ability to rubble fortifications and sink ships

** small arms table

† Troops per weapon

Appendix D - Some Historical Weapons Equivalents

American Civil War

COMMON NAME	GAME WEAPON CATEGORY
6 pdr model 1857 Gun	6 pdr ML Gun
12 pdr model 1841 Gun	12 pdr ML Gun
12 pdr model 1857 Gun (Napoleon)	12 pdr ML Gun
12 pdr Parrot Gun	10 pdr RML Gun
3" Parrot Rifle (another name for above)	10 pdr RML Gun
20 pdr Parrot Gun	20 pdr RML Gun
3" model 1861 Ordnance Rifle	10 pdr RML Gun
Griffen Gun (another name for above)	10 pdr RML Gun
Rodman Rifle (another name for above)	13 pdr RML Gun
14 pdr James Rifle	12 pdr RBL Gun
12 pdr Armstrong Rifle	12 pdr RBL Gun
12 pdr Whitworth Rifle	13 pdr RML Gun
Blakely Rifle	12 pdr ML How
12 pdr model 1841 Howitzer	24 pdr ML How
24 pdr model 1841 Howitzer	32 pdr ML How
32 pdr model 1844 Howitzer	8 in ML PGun
9" Columbiad	100 pdr PGun

Franco-Prussian War

COMMON NAME	GAME WEAPON CATEGORY
9cm Krupp	9cm RBL Gun
6 pdr Krupp (another name for above)	9cm RBL Gun
4 pdr Krupp	75mm RBL Gun
4 pdr Napoleon	4 pdr ML Gun
12 pdr Napoleon	12 pdr ML Gun
Mitralleuse	Mitralleuse
Dreyse Needle Gun	SS BA Carbine
Dreyse Needle Gun / Carbine	SS BA Carbine
Chasapet Rifle	SS BA Rifle
Chasapet Carbine	SS BA Carbine

British Colonial Wars

COMMON NAME	GAME WEAPON CATEGORY
Brown Bess	Musket
Brunswick Rifle	SS Rifle
Minie Rifle	SS Rifle
Enfield Rifle	SS Rifle
Snider Rifle	Carbine

MF LA Carbine	15	0	4**	1	0	0	2	F-FIRE P-PNLTY -
MF LA Rifle	15	0	5**	1	0	0	2	F-FIRE P-PNLTY -
MF LA Long Rifle	15	0	6**	1	0	0	2	F-FIRE P-PNLTY -
MF BA Carbine	15	0	4**	1	0	0	2	F-FIRE P-PNLTY -
MF BA Rifle	15	0	5**	1	0	0	2	F-FIRE -
MF BA Long Rifle	15	0	6**	1	0	0	2	F-FIRE -
SS Shotgun	9	0	1**	1	0	0	2	F-FIRE -
MF Shotgun	15	0	2**	1	0	0	2	F-FIRE P-PNLTY -
Lance	0	0	0**	1	0	0	0	F-FIRE P-PNLTY -
Saber	0	0	0**	1	0	0	0	MOUNT+CHARGE+-
Sword/Spear	0	0	0**	1	0	0	0	MOUNT+-
								- Sword or Spear

Note: Small arms lethality deteriorates to 10% at maximum range while artillery lethality deteriorates to 50% at maximum range.

* Ability to rubble fortifications and sink ships

** Small arms table

† Troops per weapon

Appendix D - Some Historical Weapons Equivalents

American Civil War

COMMON NAME	GAME WEAPON CATEGORY
6 pdr model 1857 Gun	6 pdr ML Gun
12 pdr model 1841 Gun	12 pdr ML Gun
12 pdr model 1857 Gun (Napoleon)	12 pdr ML Gun
10 pdr Parrot Gun	10 pdr RML Gun
3" Parrot Rifle (another name for above)	10 pdr RML Gun
20 pdr Parrot Gun	20 pdr RML Gun
3" model 1861 Ordnance Rifle	10 pdr RML Gun
Griffen Gun (another name for above)	10 pdr RML Gun
Rodman Rifle (another name for above)	10 pdr RML Gun
14 pdr James Rifle	13 pdr RML Gun
12 pdr Armstrong Rifle	12 pdr RBL Gun
12 pdr Whitworth Rifle	12 pdr RBL Gun
Blakely Rifle	13 pdr RML Gun
12 pdr model 1841 Howitzer	12 pdr ML How
24 pdr model 1841 Howitzer	24 pdr ML How
32 pdr model 1844 Howitzer	32 pdr ML How
8" Columbiad	8 in ML PGun
100 pdr model 1861 Parrot	100 pdr RML PGun
200 pdr model 1861 Parrot	200 pdr RML PGun
Revolver	Revolver Pistol
Model 1822 Musket	Musket
Model 1837 Musket	Musket
Model 1861 Springfield Musket	SS Rifle
Spencer Repeating Carbine	MF LA Carbine
Sharps Carbine	SS LA Carbine
Sharps Rifle	SS LA Rifle
Henry, Spencer Rifles	MF LA Rifle
Richmond Carbine	SS LA Carbine
Enfield Carbine	SS Carbine
Shotgun	SS Shotgun

Franco-Prussian War

COMMON NAME	GAME WEAPON CATEGORY
9cm Krupp	9cm RBL Gun
6 pdr Krupp (another name for above)	9cm RBL Gun
4 pdr Krupp	75mm RBL Gun
4 pdr Napoleon	4 pdr ML Gun
12 pdr Napoleon	12 pdr ML Gun
Mitralleuse	Mitralleuse
Dreyse Needle Gun	SS BA Carbine
Dreyse Needle Gun / Carbine	SS BA Carbine
Chassepot Rifle	SS BA Rifle
Chassepot Carbine	SS BA Carbine

British Colonial Wars

COMMON NAME	GAME WEAPON CATEGORY
Brown Bess	Musket
Brunswick Rifle	SS Rifle
Minie Rifle	SS Rifle
Enfield Rifle	SS Rifle
Snider Rifle	SS Rifle
Snider Carbine	SS Carbine
Martini Henry Rifle	SS LA Rifle
Martini Henry Carbine	SS LA Carbine
Lee Metford Rifle	MF BA Rifle
Lee Metford Carbine	MF BA Carbine
Lee Enfield Carbine	MF BA Carbine
Model 1898 Mauser	MF BA Long Rifle
Jezzail (Indian and Afghan tribal weapon)	SS Rifle

Most artillery category names follow British conventions.

Appendix E -Game Play Tutorial

The tutorial scenario provides a short battle with straightforward objectives to introduce the AGE OF RIFLES interface. From the Scenarios screen select the scenario called Tutorial. Click on the Play button to go to the Game Options screen.

Brass plates reading Confederate and Union are displayed above flags for each side. Beneath that is a button which toggles between human and computer control for each side. Beneath these switches is a slider for how much of an advantage to give the computer player via enhancements to the artificial intelligence. Setting the slider to the five medal setting should challenge the most seasoned war gamer. The other buttons at the bottom of the screen are for setting Rules Options, Game Play Options, starting a Play-by-Email (PBEM) game, starting a regular game, and returning to the Main menu screen.

Set the Confederate side to computer control and leave the slider set at one medal. Click on the Rules Options button and click on the double book button to select the Advanced Set of rules options. This implements all of the rules options except for Undo, Automatic Formations, and Automatic Vitality Recovery. After playing one or more games using the more detailed options of command, morale, and supply offered by the Advanced Set, play using the Basic set for a faster, more fluid game, or pick and choose Rules options to suit.

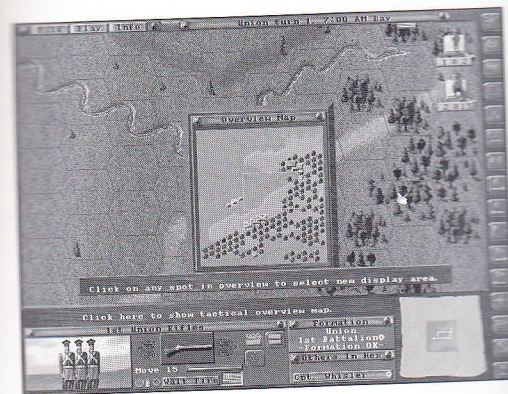
Click on the Ok button to return to the Game Options screen, then click on the Start button (the starter's pistol).

The Situation

A Confederate contingent is holding a position above a small valley. The Union has sent a similar force, consisting of two regiments of infantry, one regiment of cavalry and one battery, to dislodge the "Rebel Scum." Unfortunately for the Union, their forces are divided with the 1st Battalion and Battery 'A' being separated from the 2nd Battalion and 3rd Cavalry regiments. The Confederate forces need to take all of the Union victory hexes, while the Union forces must prevent this if possible and take the Confederate hexes. Remember that the last player to control an objective hex gets credit for it.

Below the menu bar is a window onto the Game Map. It shows an area 10 hexes wide by 6 hexes tall. Along the right border is a set of buttons. Below the Map window and Status Bar is the Unit Information panel, the Other Units panel, the Formation Control panel, and Microview panel. See the "Main Play Screen" section on page 10 for more detailed information about these features.

For now, left-click on the Show Tactical Overview Map button (which looks like an asterisk). This opens a window over the main map showing the Union and Confederate positions, three Confederate flags represent objective hexes for each side. Supply lines are visible. While not a victory condition in itself, capturing them denies them resupply. The Union side wants to hold the three held by "Johnny Reb." The Confederate side wants to take them.



Left-clicking on the Scenario Report button (which is located below the Show Tactical Overview Map button) displays information about the situation, the status of the game in terms of objectives held by either side, the Union and Confederate forces, and all active Game Options. At the beginning of the game, the computer side holds three of five objective hexes, and the level of victory will change as the game progresses. Click the Ok button to close this window.

Reviewing the Troops

Each unit in AGE OF RIFLES can be represented in one of two ways. The Counter icon is similar to a board wargame piece and uses symbols for infantry, cavalry, or artillery. This icon shows the unit's points in one corner, below a symbol for the counter's type, and an arrowhead in the center of the icon indicates the unit's direction.

Another icon is a figure representing the unit's nationality, reminiscent of a wargame miniature. This is called the Miniature icon which is the stand icon without the counter. This is the Stand icon.

Play Tutorial

provides a short battle with straightforward objectives. From the Scenarios screen select the scenario and click on the Play button to go to the Game Options screen.

Confederate and Union are displayed above flags for each side. A button which toggles between human and computer control. A slider for how much of an advantage the computer has. Enhancements to the artificial intelligence. Setting the difficulty level. The bottom of the screen are for setting Rules Options. General Play-by-Email (PBEM) game, starting a regular game, and a menu screen.

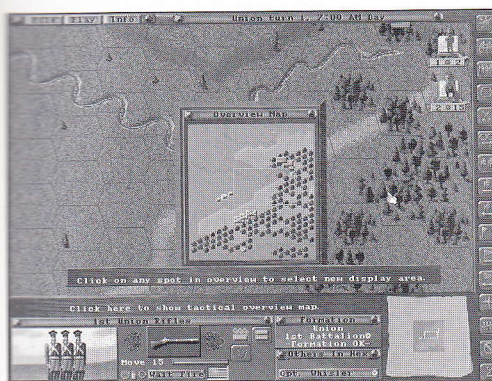
to computer control and leave the slider set at one. Click on the double book button to select the rules. This implements all of the rules options except Rules Options, and Automatic Vitality Recovery. After playing the game, click on the more detailed options of command, morale, and supply. Set, play using the Basic set for a faster, more fluid game. Click on the options to suit.

return to the Game Options screen, then click on the Start button.

is holding a position above a small valley. The Union has two regiments of infantry, one regiment of cavalry, and the "Rebel Scum." Unfortunately for the Union, their 1st Battalion and Battery 'A' being separated from the other regiments. The Confederate forces need to take all of the objectives while the Union forces must prevent this if possible and remember that the last player to control an objective

window onto the Game Map. It shows an area 10 hexes wide. On the right border is a set of buttons. Below the Map window is the Unit Information panel, the Other Units panel, the Microview panel. See the "Main Play Screen" section for more information about these features.

For now, left-click on the Show Tactical Overview Map button on the right side (it looks like an asterisk). This opens a window over the Game Map which shows the Union and Confederate positions, three Confederate, and two Union flags. These flags represent objective hexes for each side. Supply points for both sides are also visible. While not a victory condition in itself, capturing the enemy's supply point denies them resupply. The Union side wants to hold the two objectives they start with and take the three held by "Johnny Reb." Obviously, the opposite is true for the Confederate.



Left-click anywhere on the Overview Map to close this window. Moving the pointer to the edge of the Game Map causes the view to shift in that direction until the farthest edge of the map is reached. Additionally, left-clicking on the area of the Microview panel corresponding to the area you wish to view changes the Game Map.

Left-clicking on the Scenario Report button (which looks like a set of hash marks), below the Show Tactical Overview Map button, opens the Scenario Report window. This displays information about the situation, the status of the phasing player's position in terms of objectives held by either side, the Union force status (since they move first), and all active Game Options. At the beginning of the scenario, the Confederate (computer) side holds three of five objective hexes, and thus has achieved a "Debatable" level of victory. This information will change as the scenario proceeds. Left-click on the Ok button to close this window.

Reviewing the Troops

Each unit in AGE OF RIFLES can be represented in one of three ways. One form, called the Counter icon is similar to a board wargame piece complete with universal military symbols for infantry, cavalry, or artillery. This icon shows the unit's remaining movement points in one corner, below a symbol for the command the unit is attached to. An arrowhead in the center of the icon indicates the unit's facing.

Another icon is a figure representing the unit's main type of soldier on a base, reminiscent of a wargame miniature. This is called the Stand Icon. The color of the base is a quick way of identifying the nationality of the unit. The final version is the Miniature icon which is the stand icon without the colored base. The default icon is the Stand icon.



Below the icon is a bar with numbers on it which displays various factors useful in combat or maneuver. This is the "Wallop Factor" bar. Each unit has two combat strengths:

Fire Strength: This strength is used to attack enemy units at ranges of one or more hexes. This strength rating decreases with range.

Melee Strength: This strength is used to attack enemy units in hand-to-hand combat.

In both cases a unit's strength is based on its formation, overall quality, and the number and type of weapons assigned.

The Wallop Factor button toggles how these combat strengths are displayed. They can be displayed as: fire and melee, the fire and melee values added together, and the current move value, or it can be turned off. A colored light on the Wallop Factor bar displays the unit's capability level, green for good through red for poor. A flashing light on the left side of the bar indicates the amount of movement that the unit has remaining.

Turn 1

Union Phase

The unit in the Unit Information panel is the "1st Union Rifles" (of the 1st Battalion). Left-click on the Union flag in the Unit Information panel to center the view on the 1st Union Rifles. They are in the valley below three of the victory objectives marked with Confederate flags. The two infantry units here represent a command, that is, a group of units that obey the orders of one commander.

The 1st Union Rifles has a white frame around it indicating that this is the active unit. Left-clicking on another unit changes which unit is active, as does left-clicking on the Next Unit or Previous Unit buttons (figure with left and right pointing arrows beneath them), but you should start by moving the 1st Union Rifles.

Standard movement is controlled using the left mouse button and a technique called "drag-and-drop." Basic drag-and-drop movement works by clicking on a unit to select it, then with the pointer over the unit, press and hold down the left mouse button. The pointer changes to a circle with a number in it. Move the pointer until the destination hex is reached and release the left mouse button to have the unit move to the target hex. While moving the pointer with a unit selected, the pointer will change color indicating the exertion level required for movement and the number decreases as the distance moved increases. A red pointer means the hex is out of reach. Yellow means the hex is in range but requires effort, and green means the hex can be reached without tiring the unit.

For the 1st Union Rifles' first move, left-click on the hexes in the direction that the unit is facing toward (6,12). The hex number appears in the Information panel. Now move the 2nd Union Rifles in the same next hex up (7,12).

Left-click on the Next Command button (a flag with a command of the 3rd Union Rifles. This is a new command to examine it. Left-click on the Unit button in the lower window opens with the oval portrait of a soldier on the left that is a list of the number of troops in the unit, the unit's formation supply, the unit's formation, the number of soldiers in the formation), remaining movement, melee strength, and ranges. Beneath that are descriptions of the unit's experience, and overall capability (which is based on the unit's to last line describes Maj. Chamberlain and his importance that come any other pieces of information about the unit. If wounded, this is where this information would be displayed. Return to the Map screen.

Changing Formation

The 3rd Union Rifles are somewhat vulnerable in the current first thing to do is to have them move closer to the objective. Hold down the left mouse button while the pointer is over the 3rd Union Rifles until it is over hex 15,8. Now, left-click on the Status panel. A window appears offering several formation options: first from the bottom, second from the bottom, providing equal values for fire or melee combat. If the 3rd Union Rifles are clicked, the unit changes on the map, from a single file abreast. Move the 4th Union Rifles over on top of the 3rd Union Rifles the same way. Click on the Orders Scope button until two figures appear there on the button. The 3rd and 4th Union Rifles count as the "active" unit around it, indicating that you are in "orders by scope" mode.

Now left-click on the button next to the flag in the Unit Information panel. Keep clicking until the button reads Near Fire. The 3rd and 4th Union Rifles, within one hex of the 3rd and 4th Union Rifles, are now within range of them. What can they see? To find out, left-click on the binoculars button (ton with the binoculars on it). What the active unit can't be seen is shaded over. Left-clicking on the binoculars button off. Leaving this feature on all the time is useful.

is a bar with numbers on it which displays various combat or maneuver. This is the "Wallpaper Factor" bar. Two combat strengths:

This strength is used to attack enemy units at range. This strength rating decreases with range.

is used to attack enemy units in hand-to-hand combat.

Strength is based on its formation, overall quality, and the unit assigned.

explains how these combat strengths are displayed. They are the fire and melee values added together and can be turned off. A colored light on the Waller's capability level, green for good through red for very poor. The left side of the bar indicates the amount of movement.

ion panel is the "1st Union Rifles" (of the 1st Battalion). In the Unit Information panel to center the view on the valley below three of the victory objectives marked. Two infantry units here represent a command, that is, a group of one commander.

white frame around it indicating that this is the active unit changes which unit is active, as does left-clicking on Unit buttons (figure with left and right pointing arrows). You should start by moving the 1st Union Rifles.

led using the left mouse button and a technique called "drag-and-drop" movement works by clicking on a unit to move it. Over the unit, press and hold down the left mouse button. A circle with a number in it. Move the pointer until you are over the unit and release the left mouse button to have the unit move. As you move the pointer with a unit selected, the pointer shows the exertion level required for movement and the number increases. A red pointer means the hex is out of range but requires effort, and green means the hex is in range of the unit.

For the 1st Union Rifles' first move, left-click on the unit and drag the pointer two hexes in the direction that the unit is facing towards the nearest objective hex (grid 6,12). The hex number appears in the Information Bar at the bottom of the Map panel. Now move the 2nd Union Rifles in the same direction, so that they are in the next hex up (7,12).

Left-click on the Next Command button (a flag with an arrow beneath it) to take command of the 3rd Union Rifles. This is a new command, so it might be helpful to examine it. Left-click on the Unit button in the lower left corner of the screen. A window opens with the oval portrait of a soldier on the right and a rifle on the left. Below that is a list of the number of troops in the unit, the number of weapons, the ammunition supply, the unit's formation, the number of soldiers able to fire (which is based on the formation), remaining movement, melee strength, and fire strengths at various ranges. Beneath that are descriptions of the unit's levels of training, morale, vitality, experience, and overall capability (which is based on the four characteristics). The next to last line describes Maj. Chamberlain and his impact on the 3rd Union Rifles. After that come any other pieces of information about the unit, for example if the unit were wounded, this is where this information would be displayed. Click on the Ok button to return to the Map screen.

Changing Formation

The 3rd Union Rifles are somewhat vulnerable in march column formation, so the first thing to do is to have them move closer to the enemy and prepare for action. Hold down the left mouse button while the pointer is over the unit, and move the pointer until it is over hex 15,8. Now, left-click on the Formation button in the Status panel. A window appears offering several choices of formation. Choose supported line formation, second from the bottom. This is a good overall choice providing equal values for fire or melee combat. When the Formation button is clicked, the unit changes on the map, from one man marching to three men abreast. Move the 4th Union Rifles over on top of the 3rd and change their formation the same way. Click on the Orders Scope button (a single figure of a soldier) until two figures appear there on the button. The active unit should have two lines around it, indicating that you are in "orders by stack" mode which means that both the 3rd and 4th Union Rifles count as the "active unit."

Now left-click on the button next to the flag in the Status panel that reads Wait Fire. Keep clicking until the button reads Near Fire. If a confederate unit approaches to within one hex of the 3rd and 4th Union Rifles, they will fire at them if they can see them. What can they see? To find out, left-click on the Field of View button (the button with the binoculars on it). What the active unit, or stack, can see stays clear while what can't be seen is shaded over. Left-clicking on this button again toggles this function off. Leaving this feature on all the time is useful but can slow the game down.

move the 1st US Cavalry into a position where they can be used as needed. Click on the Next Command button to move the 1st US Cavalry into hex 13,10.

Artillery travel "limbered" means they are pulled by horses. In order to be used they must be unlimbered. Click on the horse-head, or Mount / Limber, button. The gun could be aimed at the hexes marked with a Confederate flag. The gun has now moved and it's time for the Confederate troops to move. Click on theourglass button to end the Union turn and confirm the move.

Turn Complete and lists the turn number, and any major events that occurred during the turn. Click the Ok button to proceed.

If the Variable Turn option is turned on, the Confederate units are not visible until they are in sight of a Union unit. Another option, Variable Turn, allows the Confederate side can move based on a number of factors including the terrain. Confederate troops were slightly better than their Union counterparts. Confederate units move twice, once at the end of Turn 1, and once at the end of Turn 2. This seems unusual, but represents the better soldiers' ability to move more quickly and "seize the initiative."

move and the End Turn window appears before a "red" "blue belly."

continue to move until the Union units are in the tree line. The Union units are the dismounted infantry. They appear that they are as the lines of the Cavalry units. They check for having been fired upon. They may rout, depending on the results. If they rout (a likely result), they



move away from Union infantry, otherwise they may stop in a nearby hex, or proceed on to their objective. The number of killed, wounded, and stragglers on both sides is listed in a window which appears at the end of the combat.

The rest of the Confederate forces are still hidden by woods at the end of the Confederate turn, so let's proceed to the Union turn 2.

Use the 1st Cavalry to harass the Arkansas Cavalry, while occupying the Confederate objective hexes with the 1st Battalion's units and advancing with the 3rd and 4th Union Rifles of the 2nd Battalion.

First, drag the 2nd Battalion's stack closer to the objective hexes. They can make it as far as 15,10 without exerting themselves much. Change their reaction orders from Near Fire to Cntr Fire. This enables them to respond when fired upon by enemy units.

The Cavalry Charge

Now, drag the 1st US Cavalry over to a hex adjacent to the Arkansas Cavalry, if they have enough movement. Left-click on the 1st US Cavalry and drag the pointer over the Arkansas Cavalry; if the pointer is yellow, the 1st US Cavalry has enough movement remaining to assault the Confederate unit. Let go of the mouse button while the pointer is over the Arkansas Cavalry to begin the melee.

A round of combat will occur, followed by a combat display. If the Union cavalry had to use most of their movement to reach the Arkansas unit, they may be too tired to be really effective, which the combat display may reveal. This process can be repeated as long as the 1st Union Cavalry has movement, but if the results of the first fight were not good, further combat may not be indicated.

Move the 1st and 2nd Union Rifles up onto the objective hexes at 8,14 and 9,14 respectively. Once they are there, click on the Overview Map button; notice how the objective flags have now changed to Union flags from Confederate. Close the Overview and Left-click on the Scenario Report button. Under Victory Status, this has become a "Brilliant Union Victory," which will remain true if the Union can hold onto these hexes!

The Union artillery should continue to cover the 1st Battalion's units unless they have a shot at the Arkansas Cavalry. This is all the Union can do for now. On to Turn 3!

Turn 3

Confederate infantry units should respond to the capture of their objectives by the Union. Because they have been travelling in the woods, it may take them a turn or two to get back to where the 1st Battalion is located. Meanwhile, the Confederate cavalry may recover enough to attack the 1st Union Cavalry, or may continue to try to escape. The 1st Union Cavalry has the Arkansas Cavalry outnumbered, so they should maintain the attack as long as possible.

When the Union turn begins, start moving the 2nd Battalion's stack through the woods, to hex 14,12. They should probably encounter one or more Confederate units along this path. Move the pointer over the hex containing the enemy unit. The pointer changes to a set of cross hairs when over a unit that can be fired at. Both units can be fired at the same enemy, or if more than one unit is visible, fire can be delivered to each unit by changing back to "orders by unit" using the Orders Scope button. Fire both the 3rd and 4th Union Rifles at an enemy unit.

Checking Supply Level

After all the firing has occurred, use the buttons in the Others in Hex panel to examine both Union units. Check if the supply icon is still present (its the one shaped like a rifle cartridge). If either unit has a slashed circle over this icon, they have run out of ammunition. They may receive supplies next turn, or not. As each unit is selected, check their supply level with this icon.

Have the 1st Union Rifles advance into hex 7,15 to take the final objective and then start heading south towards the Confederate supply point. Meanwhile, the 2nd Union Rifles should also move south. They could encounter Confederate units here.

The 1st Union Artillery should shoot at the Arkansas Cavalry unless a better target presents itself and the 1st Cavalry should keep harassing the boys from Arkansas.

Turns 4-10

By now, several units should be engaged or able to fire at others, most of the previously hidden Confederate units should be visible. Play out the scenario trying to prevent the Confederates from taking back what has been captured. Don't be surprised if the first game doesn't end as you expect; war is a devilishly unpredictable business. Experiment with other formations and types of reaction orders, don't be afraid to retreat from overwhelming odds. A good general rule is that if a friendly unit has a better capability level than the enemy, it should prevail.

If this seems to complex at first, try replaying the game using just the Basic set of Rules options, or play from the Confederate side. Most of the important controls and options have been demonstrated, but there are many controls that can be configured or used to customize the game to your preference. AGE OF RIFLES is a flexible, detailed game of nineteenth century warfare with many options. Try them all!

CREDITS

Developed by.....	Norm Koger, J
Producer	John Eberhard
Associate Producer.....	Brandon Cham
Art Director	Steve Burke
Lead Artist	Gennady Krak
Artists	Maurie Mann Dave Jensen, J
Additional Art.....	Strategy First
Programming.....	Norm Koger, J
Lead Scenario Designer.....	Mike Simpson
Additional Scenarios.....	James Young Dave Merrick
Audio Director	Ralph Thomas
Audio Technician	Ron Calonje
Multimedia Production.....	Maurice Jacks
Music Composed & Performed by	Rick Rhodes a
American Theme Music.....	Tom Carns
Manual Author	Mark Whisler
Manual Editors	Jonathan Krow
Data Manager.....	Caron White
Install Programmer	Ben Cooley
Test Manager	Glen Cureton
Test Supervisor	Jason Ray
Lead Tester	John Cloud
SSI Testers	Bill White, La Mike Hawkin Jason Loney,
Beta Testers.....	Paul Winner Vince Alonso
Executive Producer	Bret Berry
Graphic Design & DTP.....	LOUIS SAEKOW David Boudr
Special Thanks to	Kevin Klemm Chuck Kroeg Carl Norman Bob Burke, A



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Developed by.....	Norm Koger, Jr. and SSI Special Projects Group
Producer.....	John Eberhardt
Associate Producer.....	Brandon Chamberlain
Art Director.....	Steve Burke
Lead Artist.....	Gennady Krakovsky
Artists.....	Maurie Manning, Ben Rush, Mike Filippoff, Dave Jensen, John Xu, Donald Wang, Sean Tsai
Additional Art.....	Strategy First, Inc.
Programming.....	Norm Koger, Jr.
Lead Scenario Designer.....	Mike Simpson
Additional Scenarios.....	James Young, Dick Wagenet, Dave Merrick, Novastar, Inc.
Audio Director.....	Ralph Thomas
Audio Technician.....	Ron Calonje
Multimedia Production.....	Maurice Jackson
Music Composed & Performed by.....	Rick Rhodes and Danny Pelfrey
American Theme Music.....	Tom Carns
Manual Author.....	Mark Whisler
Manual Editors.....	Jonathan Kromrey, Anatheia Lopez
Data Manager.....	Caron White
Install Programmer.....	Ben Cooley
Test Manager.....	Glen Cureton
Test Supervisor.....	Jason Ray
Lead Tester.....	John Cloud
SSI Testers.....	Bill White, Lance Page, Osiris Roman, Mike Hawkins, Kelly Calabro, Sean Wyman, Jason Loney, Jeff Powell
Beta Testers.....	Paul Winner, Bill Lott, Lee Jordan, Greg Doyle, Vince Alonso, Judith Weller, John Taylor, Jim Fink
Executive Producer.....	Bret Berry
Graphic Design & DTP.....	LOUIS SAEKOW DESIGN: David Boudreau and Leedara Zola
Special Thanks to.....	Kevin Klemme, Jan Lindner, Joel Billings, Chuck Kroegel, Dan Cermak, Lee Crawford, Carl Norman, John Hudson, John Ross, Tom Wahl, Bob Burke, Al Revere, and Andy Preziosi



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AGE OF RIFLES HOT KEYS

Game Screen

Save Scenario s	Change Facing by 1 Counterclockwise "
Load Scenario l	Change Facing by 1 Clockwise "
Undo u	Change Orders o
End Turn e	Change Command Scope c
Change Unit Icon i	End Scenario & Return To Main Screen q
Change Wallop Display w	Music On/ Off m
Swap Stack k	Sound Effects On/Off j
Show Command Radius x	Animation On/Off b
Identify Formation y	Graphics Rich/Simple g
Show Command Details d	Show Movement Paths On/Off p
Show Field of View v	Show Movement Limits On/Off a
Reporting Menu r	Select Next Unit With Movement Points (regardless of command or number of passes) <space bar>
Open Change Formation t	Exit Popup Window <Esc>
Open Change Facing Window f	